



AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

VOL. 7. No. 11. }
WEEKLY. }

BALTIMORE. APRIL 25, 1885

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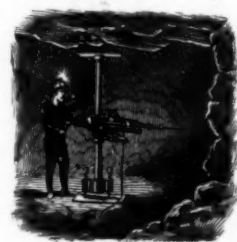
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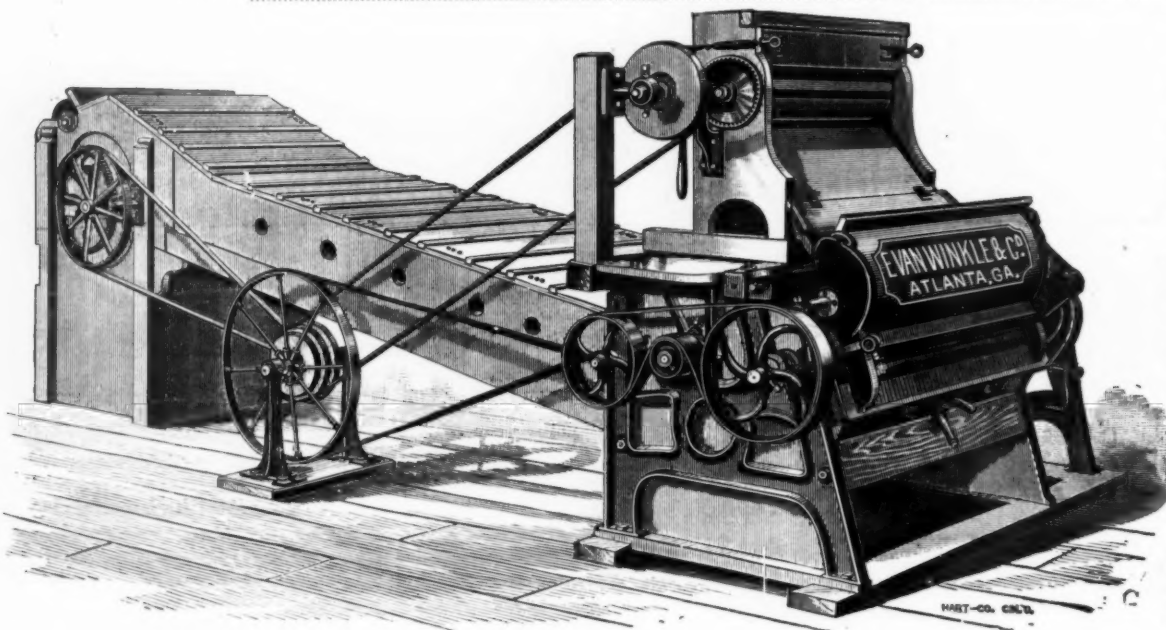
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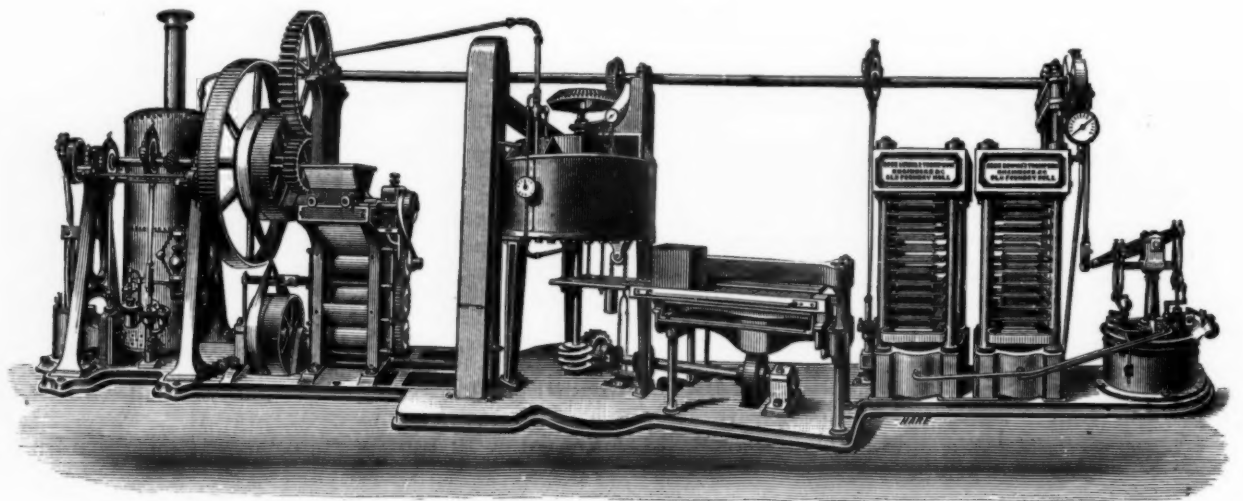
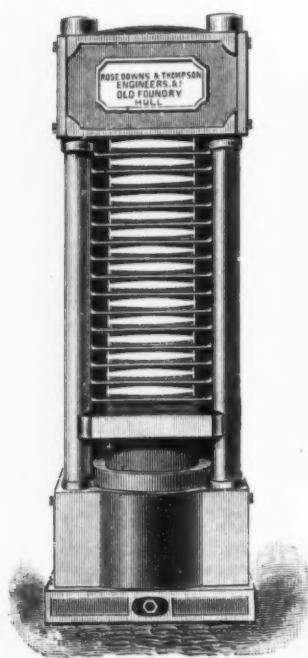
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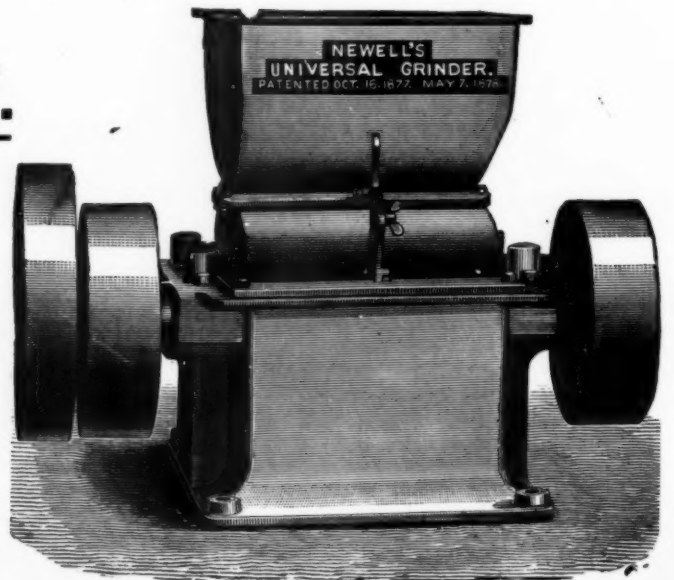
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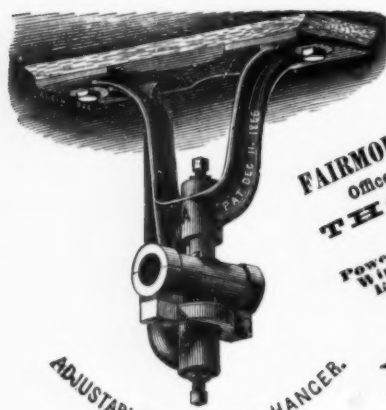
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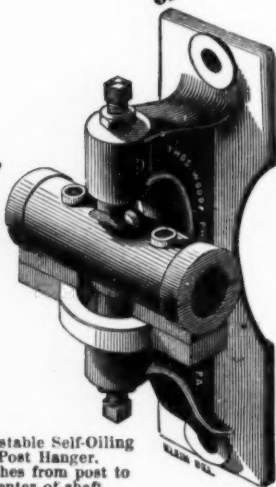
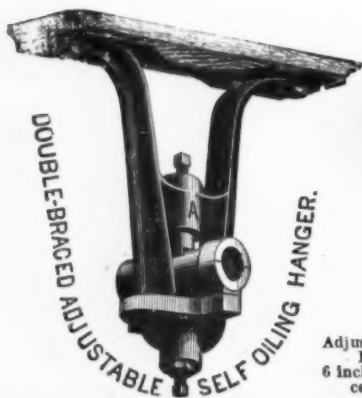
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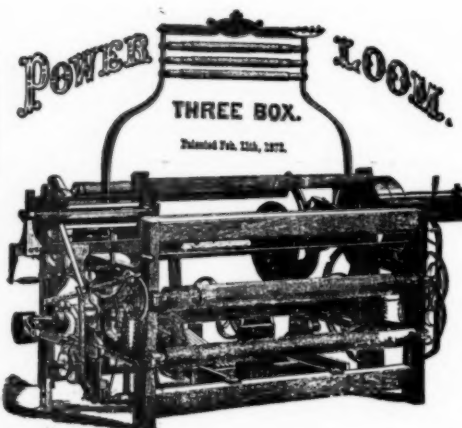
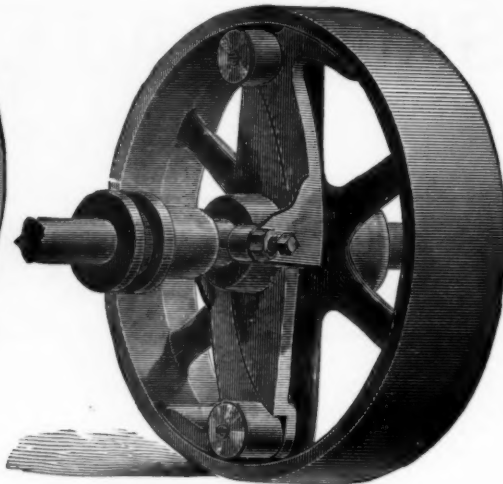
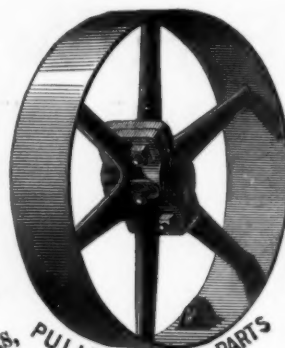
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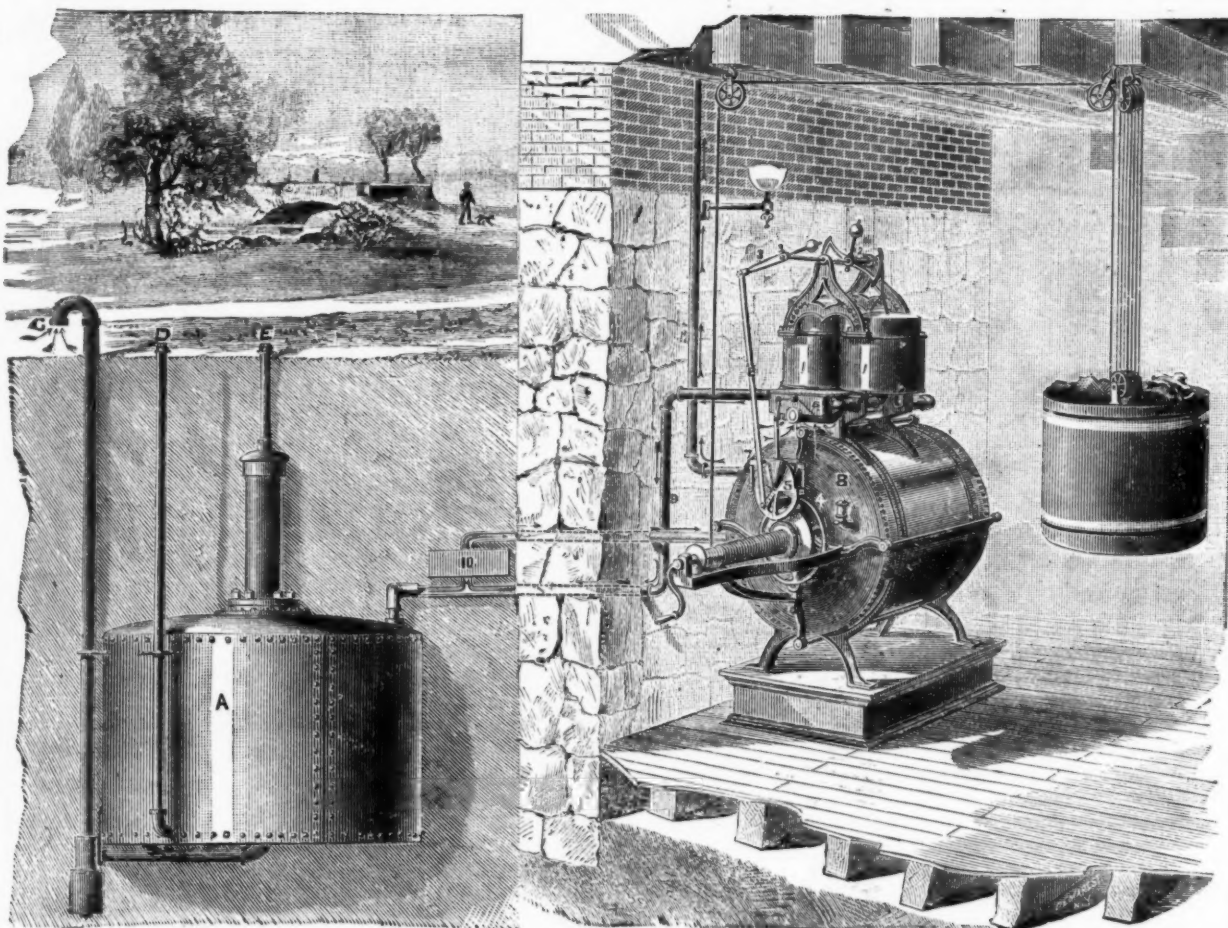
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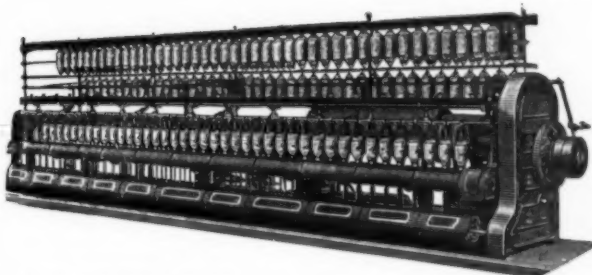
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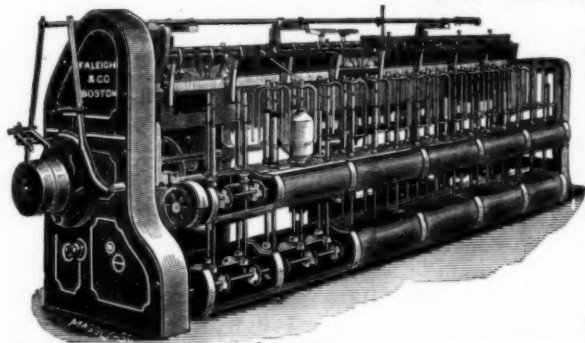
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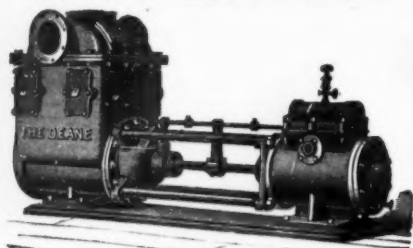
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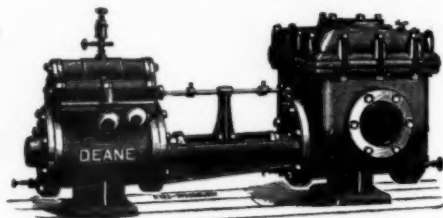
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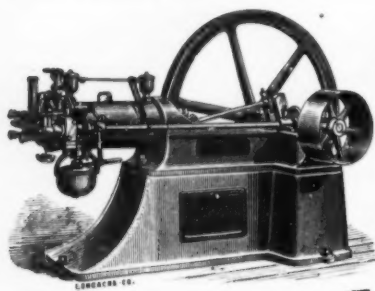
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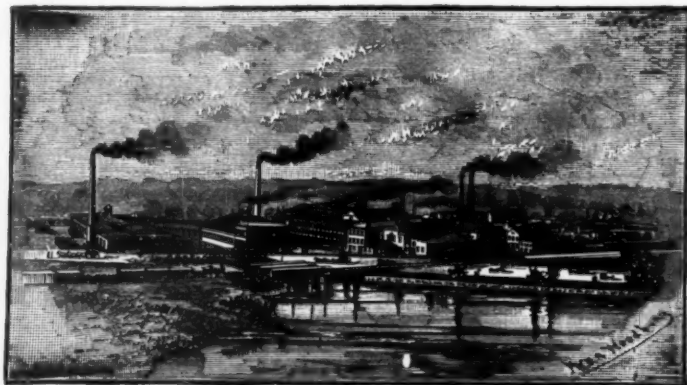
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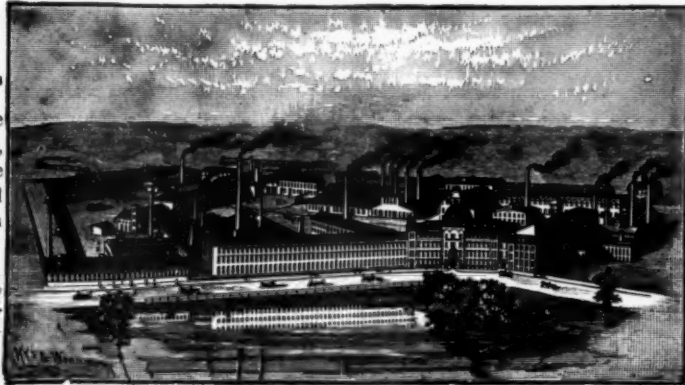
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[From Chronicle and Constitutionalist, Augusta, Ga.]

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No paper in the Union has more entitled itself to Southern gratitude than this enterprising and reliable journal. Mr. Bigsby is a New Yorker. The two young Edmonds brothers are Virginians. The RECORD has come to be a standard of authority in the matter of Southern advancement. Its labor has been remarkable in this work, and its care and accuracy phenomenal. As it has progressed in popular esteem, a few have endeavored to discredit its work. But all attempts have simply riveted it more strongly in public esteem.

The recent publication in its issue of April 11th of the development of the industrial interests of the South has attracted general attention. The fine aggregate of \$20,591,000 of new capital invested in manufacturing is given. The figures, if possible, fall short of the mark rather than overstate it.

In getting up this valuable and accurate information the editors of the RECORD underwent the enormous trouble of writing between 1,500 and 2,000 letters and postal cards.

Mr. R. H. Edmonds, who does this work, is an extraordinary young man, as conscientious as he is able. He published about 5 years ago, when only 21 years old, in the "International Review," a statistical history of the grain trade of the United States since the landing of the Pilgrim Fathers, which received universal commendation. He also at the twice-repeated request of the United States Census Department, prepared the first and only report made upon the oyster interests of the Chesapeake bay, a statistical work of the most difficult kind.

In turning his attention to Southern statistics Mr. Edmonds has been certainly a Southern benefactor. No journal has done more to bring Southern resources to Northern observation. Let our Southern press uphold the RECORD in its good labor. It has conferred an incalculable benefit upon our section.

Better Crop Outlook.

The very unfavorable outlook for the wheat and oat crops in the South has decidedly changed for the better within the last week or two, and while it is not to be expected that a full average yield will be gathered, yet the indications now point to much larger crops than were looked for only a few weeks ago. The warm weather has worked a decided improvement in the condition of the growing grain, and fields which lately looked as though they would hardly yield as much wheat as was required to seed them, now give promise of a fair crop.

The weather for all farming operations has lately been very good, and Southern planters and farmers feel much encouraged, believing that their prospects are more favorable now than for the corresponding time of several preceeding years. There is no doubt but that the agricultural interests of the South are undergoing a steady improvement, slow it is true in some sections, and yet there is a general advance that will in a few years be very noticeable. As we lately showed from the reports of the United States Agricultural Department, the Southern States now have \$195,000,000 more invested in live stock than in 1875, while in 1884 the yield of corn and oats in the South was 138,000,000 bushels greater than in 1875. These items show something of what the progress has been in ten years. They do not, however, give any idea of the tremendous development of the fruit and vegetable business in the South since 1875, an industry which is becoming of immense importance and which even now adds millions of dollars annually to the value of the South's agricultural productions.

This is a business that will continue to grow and prosper. The North and West will take all the early fruits and vegetables that the South can raise for many years yet, and the rapid increase of manufacturing and mining interests will add largely to the home demand for all farm products. The prosperity of Southern industrial interests will add largely to the prosperity of the farmers, and this in turn will react very favorably upon the former, and thus these two vast interests,—manufactures and agriculture,—both of which are so essential to the permanent prosperity of a country, will reach a high state of perfection in the South—a land abundantly blessed by nature to become the richest and most favored country in the world.

THE Stoney Landing Company, of Charleston, S. C., sent 2,000 of their patent pressed bricks to the South Carolina table of the Confederate Relief Bazaar. These bricks are now for sale at much less than the usual price of pressed bricks, as the managers of the Bazaar are anxious to dispose of them immediately. Particulars can be obtained from Mr. James G. Holmes, Holliday street and Exchange Place, Baltimore.

It is said that the South, instead of buying less meat each year, is annually sending more money to the northwest in payment of meats. In several of the Southern States there are fewer cows and sheep than there were in 1880. This is said to be the case in Louisiana and Mississippi.—*Birmingham (Ala.) Chronicle.*

This is a mistake. Only a few weeks ago we published statistics compiled from the reports of the United States Agricultural Department, showing that the number of farm animals in the South had largely increased of late. In 1875 the South had 5,193,300 sheep, 10,035,300 hogs, and 2,709,200 cows, while on January 1st, 1885, the number had increased to 12,640,323 sheep, 16,532,516 hogs, and 3,612,673 cows. In 1880 Louisiana and Mississippi, the two States mentioned in the above extract, had 115,200 and 200,235 cows, and 116,994 and 202,303 sheep respectively; in 1885 these States have or had on January 1st, Louisiana 148,848 cows and 121,234 sheep, while Mississippi had 272,081 cows and 281,738 sheep—a very good increase in each case over 1880. Instead of the South buying more meat every year of the West, Prof. Jas. R. Dodge, statistician of the United States Agricultural Department, in a letter to the MANUFACTURERS' RECORD March 5, said the South is buying "less now than formerly,—a gradual decrease. We find many counties in the cotton States reporting a full supply of breadstuffs and meats." The papers that publish these false reports that from time to time are found going the rounds of the press, do the South much harm thereby. A little investigation would enable them to see their incorrectness.

THE MANUFACTURERS' RECORD employs much enterprise and activity, and is rendering very valuable service to the South. It is therefore in no spirit of criticism, but rather in the way of friendly suggestion, that we express the fear that it uses the word "invested" in a way that may mislead. Business enterprises are often projected, and companies organized in good faith, that for some after-occurring reason go no farther. No Legislature meets, we suppose—certainly not in Virginia—in which companies are not chartered for undertakings that are never accomplished. If our energetic Baltimore contemporary will allow us, we respectfully suggest that it cannot be properly said that capital is "invested" in a business until it is actually or virtually paid in.—*Industrial South, Richmond, Va.*

The editors of the Industrial South are gentlemen whose good will we value. Their paper is one of our favorite exchanges and we appreciate the courtesy and kindly tone of the above criticism, but we think they are at fault. In our statement of the industrial progress of the South, to which the above extract refers, we distinctly stated that our figures giving the total capital "included the capital stock of incorporated companies." Possibly there are a few of these companies that will never carry out the objects for which they were organized, but we cannot help that, neither could we refuse to include them in a list of companies that

have been chartered or incorporated, even if we were able to know that they might fail in their contemplated plans. Their charters are on the official State records and our list is intended (and it is always so stated) to include all companies organized during the period under review. Possibly here and there may be a company that never gets actively to work, but there are on the other hand hundreds of small portable saw mills, country grist mills, &c., that are never included in our lists as they are considered to be too small for separate mention, although in the aggregate their value is very considerable.

In our list of Virginia enterprises, out of a total of 40, according to reports received directly by us from the owners or managers, thirty-five have either already been completed and are now at work, or are else at present under construction; the other five have been duly organized and their arrangements made to carry out their intended enterprises.

THE *Daily Union*, of Nashville, Tenn., which by the way is working vigorously and intelligently in seeking to build up the manufacturing interests of Tennessee, says:

"Nashville now has large manufacturing interests. The growth in the last few years is absolutely wonderful. Foreign and home capital are being united. Industrious, enterprising and wide-awake men from the North have come among us, and put their capital along by the side of home capital; and even through the trying ordeal of the present depression, nearly all these industries are growing—many of them paying handsomely."

Just as Nashville is doing in this "absolutely wonderful" development of her manufactures, so is the whole South doing. From one end of the South to the other there has been this same "absolutely wonderful" industrial growth. Nashville's progress, as great as it has been, is probably not more remarkable than that of dozens of Southern cities. The progress of the South is seen in every State and in almost every part of every State.

THE Columbia Manufacturing Co., manufacturers of fine warps, knitting cotton, twine, &c., Columbia Factory Post Office, N. C., write us that: "We have recently received four car loads of machinery—cards, drawing and spinning frames, &c. We have been and are now sold ahead on warps, (our principal production,) and have demand for all knitting and ball sewing cotton we can make, from New York to New Orleans."

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

Notes * From * Dixie.

BY CHAS. H. WELLS.

The Shenandoah Valley and the Norfolk & Western Railroads are doing a fine business, and as soon as the summer season fully opens, the travel to Luray Caves, Roanoke, Natural Bridge and other points of interest along the "great scenic route," will be increased beyond even the gigantic proportions of last year. Mr. Joseph H. Sands, general superintendent of the roads, is a hard and energetic worker, and the result of his indefatigable labors is shown in the increased patronage which the roads are getting year after year. Major Pope, the general passenger agent, has also been largely instrumental in building up the popularity of the route, and the advertising matter issued from his department is noted the country over for its beauty and artistic excellence. The newly elected president of the road, who succeeds Mr. F. J. Kimball, is spoken of as a man of great executive ability, and with such a triumvirate at the helm as the Shenandoah Valley will now have it will no doubt redeem its promise to become the leading passenger route to the South from New York and the East.

It is two years since I was last at Chattanooga, from which city I pen these lines. It would be absolutely impossible to tell, within the limited space allotted to the "Dixie Notes," of the vast, wonderful changes in the "Iron City" during these two years. As if by magic new buildings have sprung up in every direction and it looks as if the prophecy of General Samuel Thomas, of the E. T., V. & G. Railroad, made two years ago, will be fulfilled. Standing on Cameron Hill and pointing to the city at our feet, General Thomas said in 1883: "Here will some day be one of the richest cities in the American Union." But twenty-four months have sped by since these words were uttered, and yet in that time the wealth of the city has increased fully sixty per cent. With iron ore at her very doors, unexcelled facilities for transportation North, South, East and West, what can Chattanooga need. Capital is flowing in like water and business is all on a solid foundation. Some idea of the number of tourists who pass through here may be gleaned from the fact that a bookseller here, who recently got up an illustrated guide to Chattanooga and vicinity, has already sold the full edition of 5,000 copies and has another edition of 5,000 copies in press.

A subscriber in New York (who modestly withholds his name) wants to know "whether a new growth of timber will spring up in the South when the present timber crop is all cut." Certainly; owing to the humidity of the temperature in most of the Southern States. An authority on the subject of Southern timber says: "But owing to the fact that the soil has been exhausted of those principles necessary for the production of the original growth, a new variety of trees will spring up, that demand some other essential quality of the soil for its growth and maturity. For instance, deprive a given area of its original growth of white pine, the *pinus strobus*, and the chestnut will follow, and in a few years will become large nut-producing trees. Again, cut down the chestnut, and the wild cherry will spring up. Then to successfully replenish our forest trees with a new growth upon what are now called old and worn-out fields, it is necessary to give some attention to analysis of the soils, as well as the habits and growth of the tree itself." All this belongs, properly, to the study of forestry, which is now taught in Europe and which should be taught here.

Another correspondent from Milburn, N. J., wants to know "something about the

topography of North Carolina." The topography of the State of North Carolina may be conceived by picturing to the mind's eye the surface of the State as a vast declivity, sloping down from the summits of the Smoky Mountains—an altitude of 7,000 feet—to the level of the Atlantic Ocean. The Smoky Mountains constitute a part of the great Apalachian chain, which here attains its greatest height—the greatest, indeed, in the United States east of the Rocky Mountains. This slope is made up of three wide, extended terraces, if that term may be allowed. The first, a high mountain plateau, distinguished as the Western or Mountain Section; the second, a sub-montane plateau, distinguished as the Middle Section, of which the western half is further distinguished as the Piedmont Section; the third, the Atlantic plain, distinguished as the Low Country or Eastern Section, and that part from the head of the tides downward as the Tidewater Section. From the first to the second section there is a sharp descent through a few miles only of not less than 1,500 feet; from the Middle to the Low Country, a descent of about 200 feet; through the two latter, however, there is a constant downward grade.

Apropos of the "drummer's" tax in North Carolina, the agitation still continues. Mr. C. A. Hege, of Salem, N. C., a prominent manufacturer, writes a long letter in which he says: "It is the duty of every citizen of North Carolina who has an interest in her welfare, (especially in encouraging new manufacturing enterprises within her borders,) to use their influence to have the present unjust and burdensome \$100 drummer's license law abolished. This law had, no doubt, a good object in view when it was enacted, as it was intended to discriminate in favor of North Carolina manufacturers, but it was found that this would not stand, so it has become a burdensome law and calculated to crush out smaller manufacturers throughout the State, as I have been frequently informed by manufacturers outside of this State who would come here and start up business were it not for this objectionable license law, being obliged to pay out each year \$100 in order to sell their goods. As the law now stands it will debar a man from going outside of his own door to solicit an order without being liable to this tax."

Mr. Hege, in his little pamphlet then goes on to say: "There are many small manufacturing establishments just starting, who are unable to pay this drummer's license, therefore, they are, as it were, with their hands tied, and this very law is accountable in many instances, no doubt, for the failures of small manufacturing establishments, as they cannot sell goods, wares, or merchandise without violating this law, unless they pay the license tax, which they feel they are not able to do, especially in the present hard times. Now is the time more especially to call for the abolition of this law, and I hope every editor throughout North Carolina will take up this subject in the general interests of the manufacturers in North Carolina. By so doing, it will not only be benefiting the present manufacturers, but I believe it will be instrumental in encouraging manufacturers from other States to come here and cast their lot with us, and will do more in this direction than any other single move that the Legislature could make."

A couple of weeks ago I printed in these columns a statement by Mr. John McDuffie, as to the resources of Robeson county, N. C. I have before me now no less than six letters, asking for information as to the whereabouts, *et cetera*, of this county. Robeson county was formed in 1786 from Bladen county and was named in honor of Colonel Robeson, a Revolutionary hero. It lies in the Eastern section of the State, 150 feet

above sea-level, sixty miles from tide-water, and contains 800,000 acres of land, being the largest county, I think, in the State. It is about 70 miles long and from 25 to 30 miles broad. The county is penetrated by the Cape Fear and Yadkin Valley and by the Carolina Central Railroads; its principal stream Lumber river, and its main towns Lumberton and Shoe Heel. There are 88 school districts for whites and 63 for blacks, and the value of the public school property, is fixed at \$8,144. Of the 800,000 acres of land in the county 250,000 are in swamps; the remainder is the finest kind of agricultural land and raises splendid crops. For further information write to W. W. McDiamid, editor of the *Robesonian*, printed at Lumberton.

Mr. Clarence P. Dresser, of the Chicago *Inter-Ocean*, is coming South to write up the country for his own weekly paper, the Hyde Park (Ill.) *Herald*. Mr. Dresser is the young journalist who had the famous "public beat" interview with Vanderbilt. Last fall he traveled about with Gen'l. Logan, reporting the long-haired candidate's stump speeches. Atlanta, Macon, Montgomery, Chattanooga, Birmingham and Knoxville, will be among the cities Mr. Dresser will visit and some bright, spicy, piquant letters may be expected. He will devote his attention entirely to the industrial sections and will eschew politics, scandal and "bloody-shirt" nonsense.

It is rumored in Southern railroad circles that the East Tennessee, Virginia & Georgia, the Richmond & Danville, and the Georgia Railroads, are going to build a new depot in Atlanta. The press of this section has given currency to this rumor, which is strictly without foundation. An alliance between the three roads named is absurd—the Georgia is owned by the Central Company, which is the E. T., V. & G.'s most bitter enemy, while the R. & D. and the E. T., V. & G. do not affiliate any more than oil and water. There is not the slightest probability that any alliance will be made by the East Tennessee people who are independent because they can afford to be so.

The popularity of the new Mann Boudoir Cars is the principal topic of conversation among Southern railroad men now-a-days. The Mann cars from Cincinnati to Jacksonville, by the Cincinnati, Southern & East Tennessee, and the Mann Boudoirs from Atlanta to New Orleans, by the Georgia Pacific, are crowded every trip and are big cards for the roads here. I came down from Cincinnati to Chattanooga on one yesterday and every available space was occupied. These cars have advantages over the Pullmans in many respects—they are more private, are better ventilated, are more luxurious and are decidedly more comfortable.

IN showing the openings for the manufacture of wood-working machinery in the South, the Southern Lumberman says:

"We assert boldly that more machinery is being sold in the States of Tennessee, Alabama, Georgia, Florida, Mississippi and Louisiana than in any other six States in the Union, and this is evidenced by the fact that nearly if not all the manufacturers of wood-working machinery in the Northern and New England States are looking for a market in the South. The manufacture of wood-working machinery is an industry wholly undeveloped in the South, and it is a matter of surprise to us that this is so. In looking over the whole field we see the vast forests of the North being rapidly depleted; capitalists are already turning their steps Southward, where the supply of timber for all purposes is inexhaustible, and with their coming comes also the trade in machinery, and no Southern establishment to supply this demand, consequently the Northern manufacturers are getting the trade that would otherwise, in a large measure, be retained in the South."

The Exposition.

[Special correspondence BALTIMORE MANUFACTURERS' RECORD.]

NEW ORLEANS, LA., April 17, 1885.

There has been no more potent and powerful factor in the development of all the material resources of the South than the great railroads of this section. They have been managed, owned and controlled by business men of abundant means who have been quick to discern the benefits to be gained by the rapid settlement of Southern lands, and the building up of new industries.

They have therefore encouraged every measure looking to these ends and contributed liberally towards every scheme that promised good and practical results. Besides having given greatly reduced passenger rates from all points in the country to the Exposition, they have hauled many of the State exhibits free, and many of the individual exhibits for one fare. The roads entering New Orleans contributed large sums of money in aid of the Exposition, and many of the Southern systems of railroads have made exhibits of the products of the country along their line.

The largest and most comprehensive exhibit of this character is made by the Queen & Crescent Route, in the Government Building.

This system of roads, known also as the Erlanger Syndicate, embraces five lines viz: the Cincinnati Southern, from Cincinnati to Chattanooga; the Alabama Great Southern, from Chattanooga to Meriden, Mississippi; the Vicksburg & Meriden, from Meriden to Vicksburg; the New Orleans & Northeastern, from Meriden to New Orleans; and the Vicksburg, Shreveport & Pacific, from Vicksburg to Shreveport and into Texas. All of these roads are owned by the Erlanger Syndicate, except the Cincinnati Southern, which is leased and operated.

Following the lines mentioned above on the map, it will be seen that they run through the famous Blue Grass regions of Kentucky, penetrate the very heart of the rich mineral districts of Kentucky, Tennessee, Georgia and Alabama, and traverse the fertile fields of Mississippi, Alabama and Louisiana, taking in the vast sugar and rice plantations and the most extensive cotton-producing districts of the country. It will thus be seen that this route controls the traffic of a section with a greater range of natural productions than probably any railroad system in the United States, and the splendid exhibit of these products at the Exposition furnishes ample evidence of the quality and quantity of these productions.

From Kentucky the exhibit contains specimens of all the cereals of the fine bright tobacco now used in our twenty brands of cigarettes, and also manufactured into smoking and chewing tobacco. Prominent in the tobacco exhibit are specimens of the white Burly tobacco, which grows to great perfection in this State. From Kentucky, also are shown over 100 varieties of timbers in blocks, showing the grain of the wood, the rough surface and the bark and polished boards of the different varieties. From Tennessee the exhibit contains specimens of the finest marble found anywhere in the United States. There are many of these quarries located directly on the lines of the Queen & Crescent route. Fine specimens of the best grade of Bituminous coal are exhibited. An immense pyramid is built of coal brought from Rathbone Mines, Poplar Creek, Tennessee. From this State are shown over 90 varieties of timber; red and brown hematite, and limonite ores. The Soddy mines coal and coke of the best grades. Pig iron from Chattanooga of so pure a quality that the threads of a screw are cut right on the pig. Besides the above, the Tennessee Department contains a full line of commercial irons. The exhibit made by the Rugby Colony is as varied as it is valuable. It contains grains, fresh and evaporated fruits, wines and tobacco. A very attractive part of this collec-

tion is the handsome photographic views of Rugby. This colony it will be remembered was settled in 1878. The new settlers have flourished well, and they now have some handsome buildings in their settlement. They have schools, churches and a public library.

About 18 miles from Rugby is situated the vineyard of Victor Letorey, who purchased land and located their about 6 years ago. This gentleman studied the manufacture of wines for 15 years on the Rhine and spent 4 years in Paris with Guyot. He exhibits over twenty varieties of wines grown by himself that have been pronounced fully equal to the finest grades of American wines. The fruit interests of this section of Tennessee are being rapidly developed.

In the Alabama department there is exhibited a splendid collection of china and porcelain ware manufactured from Kaolin taken from the celebrated Allen mine, 70 miles south of Chattanooga. It is claimed that this mine is the only one, so far, that produces Kaolin that can be used for queensware, and porcelain without mixture with other ingredients. The exhibit contains some very fine specimens of Alabama marbles, and among these specimens is a figure of a lion cut from a beautiful piece of white marble, and which was awarded the special premium for American sculpture at the World's Exposition in London in 1851. Building stones in great variety and of excellent quality from inexhaustible quarries along the line of the Alabama Great Southern Railroad are on exhibition. There are also shown in this department 105 varieties of valuable timbers.

From the iron district of Birmingham are exhibited red and brown hematite ores running from 53 to 68 per cent. metallic iron. Iron rails from Birmingham, pig iron from the Sloss, Alice, Mary Pratt and other furnaces, and samples of bar plate, &c., from the Birmingham rolling mills; halosite from the Allen mine, and three varieties of phosphates,—the yellow sand carrying 10 per cent. phosphoric acid, green sand, 11 to 15 per cent. phosphoric acid, pseudo coprolites, 25 to 38 per cent. phosphoric acid. It is said that there are large deposits of the phosphates from which these specimens were taken.

The Mississippi Department contains varieties of wool from all the counties along the road; rice, cotton, grain, sugar and fruits; phosphates similar in appearance to the South Carolina rock, but not yet analyzed; bales of moss used in the manufacture of furniture and a large display of silk.

In the Louisiana department there are 90 varieties of timbers, specimens of rock salt, large and handsome exhibit of cotton seed oil, cake, and meal, hay and grasses, marls, building stones and a large collection of hand specimens of minerals and fossils of Louisiana, made by Prof. Hillgard. A very fine exhibit is made of the rock, used for ballasting on the Cincinnati Southern Division, which was brought here from Chattanooga. It is said to be the best ballasting ever used in America.

The office of the commissioner in charge of the exhibit, Mr. G. B. West, is a double story and is built of Southern cypress. This wood is almost indestructible, lasts for ages, and is about as cheap as the ordinary Southern pine.

Mr. West is entitled to great credit for this handsome and attractive exhibit. The specimens were collected within 60 days and as I have already shown, the collection embraces everything of importance along the lines of the great Queen & Crescent route.

THE LANE AND BODLEY COMPANY, of Cincinnati, have an excellent exhibit of their machinery in the main building and in the saw mill building. It contains automatic cut-off Corliss engines, center crank engines, heavy stationary circular saw mills, fractional head blocks, gang edgers, turned and polished iron shafting, hangers, pulleys, couplings, mill gearing, mule stands, binder

frames, and all appliances for transmission of power, and a model gold stamp mill. The Corliss engines are too well known to require any special mention. It is only necessary to say that this company manufactures only the best type of this engine, with all the latest improvements.

The principal part of the exhibit is located in a prominent place in the main building, where it attracts the attention of all visitors. It is under the charge of Mr. E. M. Link, assisted by Mr. W. V. White, whose courteous treatment of strangers is making many friends for the company, and rapidly extending its business.

A small machine, which, owing to the great need of such an invention, is daily examined by hundreds of people, is the

TAYLOR COTTON SEED CRUSHER, GRINDER AND SIFTER.

It is claimed that this mill is a great improvement on any machine heretofore manufactured for converting cotton seed into meal. It crushes, grinds and sifts the seed at one operation. The seed goes into the hopper just as it comes from the gin, and comes out the clean meal (fine or coarse, according to adjustment of the springs) in one place and the hulls and adhering lint in another; or, if preferred, by disconnecting the separator and loosening the springs, the seed can be simply crushed and the germ killed, as in the old style machines. The cotton planters of the South will derive great benefit from the use of a mill of this kind. The immense value of cotton-seed as a fertilizer is now fully recognized. It is said that while very valuable in their natural condition, the seed are much better for manure when crushed or ground, because of their more rapid decomposition.

The Committee on Textile Machinery, of which Mr. D. E. Converse, of Spartanburg, S. C., is the chairman, completed its labors this week and made the awards. The report has not yet been made public. L. A. R.

ORDINARILY we propose to pay no attention to gossip or street rumors, but within the past few days inquiries have been made personally and by letter at both our Boston and New York offices, as to whether the rumor was true that the writer of this was to abandon the Gazette, and if the Gazette was for sale. When a rumor like this is as carefully circulated as this combination has been, it becomes us to simply take notice of it in a business way, to state that both are positively and absolutely untrue. So far as either of the owners of the Gazette go, it is not for sale nor is any interest in or part of it for sale; and so far as the fact that any change in editorial management is to occur goes, it has no basis or foundation of fact to the writer's knowledge up to this time. No such change is contemplated. On the contrary, arrangements have been consummated whereby a change in office in New York will occur on or before May 1, but no change in editorial or business management, or in its publication, or in the parties interested in it, will be made so far as either of them have any knowledge or disposition, and its subscribers and advertisers will be duly notified of any such change whenever it shall occur, if indeed it does.—*Boston Manufacturers' Gazette.*

Editor Pray of the *Gazette*, if he would trace up these rumors, would doubtless find that they originated with some envious business rival. Mr. Pray ought to know by this time that if he shows any enterprise in the management of his paper, it is useless not to expect misrepresentation and falsehoods against him or his paper. The occupation of some people would be entirely gone, if they were to lose the power to be untruthful regarding those engaged in the same line of business as theirs.

IN commenting on a late editorial in the MANUFACTURERS' RECORD upon the injury done to the South by railroad commissions, the Clarion of Tusculumbia, Ala., says:

"The RECORD speaks truly. The wide-awake people of the New South are convinced of the suicidal policy pursued by our State governments in the matter of railroad regulation, and, thank God, a brighter, better day is dawning upon us—a day in which justice shall sway the sceptre, reason shall rule, and ignorance and fanaticism be deprived of power to harm or hinder. In South Carolina, as in this State, they compelled the railroads to pay the salaries and expenses of the commissioners. Tired of this imposition, the roads resisted the payment of the tax, and the court decided the law to be unconstitutional. This, we have no manner of doubt, is a just decision, and should serve as a warning to this and other Southern States in which the roads, to avoid expensive litigation, have paid, with great patience, their pro rata of the salaries of men whose business it is to embarrass and retard their progress as the mightiest fertilizing agent known in the commercial, industrial, agricultural and social world; the fertilizers and promoters of the growth of cities, plantations, factories, mines, schools and churches. Alabama owes her prosperity to-day almost exclusively to her railroads, and, if she ever attains the acme of industrial and agricultural prosperity for which she should proudly aim, the encouragement of her present roads and projection of new ones must be prime factors in bringing about that much desired end. Our roads have shown wonderful patience in thus far paying, without protest, the expense of a commission to regulate their business and diminish their income, but, since the South Carolina roads were successful in resisting the imposition, we may confidently expect a similar "kick" from our own roads. Hence, if nothing but a commission will satisfy the masses, let the State at once adopt a constitutional and just method of paying its expenses."

THE *Times Democrat*, of New Orleans, an unquestioned authority upon Southern matters, in an editorial upon the statistics of Southern progress published in the MANUFACTURERS' RECORD of January 10 and April 11, says that these figures "have not been successfully contradicted, although mildly doubted by the small section of the press that still lacks capacity to realize what a vigorous, virile worker and producer the giant young New South is."

BOOTH, MILLER & CO., founders and machinists, Youngstown, Ohio, informs us that they have just finished a complete set of cotton-tie rolls for the Houston Rolling Mills and Iron Company at Houston, Texas, who are about to engage in the manufacture of cotton-ties. This mill was erected in 1884, and put in operation in May of the same year. Its products hitherto have been light T rails, merchant bar iron, railroad spikes, fish-plates and general railroad supplies. A great many cotton-ties are used in Texas, and we trust that this new enterprise may prove eminently successful. It is better for Texas to make her cotton-ties and spin her cotton than to send to England for the ties and then send both the cotton and the ties to that country, and after the former has been made into cloth bring it back to the spot where it was grown. To do so is a misdirection of human energy, for Texas has as many natural advantages as England for the manufacture of cotton goods.—*American Manufacturer.*

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

SOMEBODY has sent us a clipping from a paper in Chattanooga called the *Times*, containing a lot of ranting abuse of the MANUFACTURERS' RECORD. The following is a sample of the *Times* editor's high-toned style of criticism:

The Birmingham *Age* asks us to indicate why we denounce the pretended industrial news of the BALTIMORE MANUFACTURERS' RECORD as a fraud. We are astonished that any editor should not have found this out. The MANUFACTURERS' RECORD has printed within two years several lists of new enterprises started in Southern States in given periods. One of these was investigated and analyzed by the *Tradesman* of this city, and shown to be about three-fourths moonshine and wind. Its lists of new industries in Chattanooga were nearly all without other foundation than letters and special telegrams saying this or that investment "had been talked of" or "was contemplated." On the same basis stands the last batch of fraudulent trash, pretending to cover new Southern enterprises for the first quarter of 1885.

Why, the amount \$22,000,000 alleged by the MANUFACTURERS' RECORD to have been invested in Southern States in new enterprises, from January 1 to April 1, is a monstrous romance on the face of it, a proof strong as holy writ that figures, if they do not lie, are potent factors of those who run the Baltimore industrial wind instrument.

If the editor of the Birmingham *Age* will consult his intelligence and judgment more and his local State and sectional vanity less, he will be at no loss for evidence that this Baltimore concern is doing the South great injury by publishing windy humbug and exaggeration, where the truth or an approximation to it ought to be told.

The *Times* is a daily paper, and its owners are also the proprietors of a so-called industrial paper published in Chattanooga called the *Tradesman*. The owners of the two papers, jealous of the growing prominence of the MANUFACTURERS' RECORD while the *Tradesman* lags so far behind, find vent for their envious rage in falsehood and villification. The remarkable success of this paper, the enterprise of its publishers, and its ever widening influence as the exponent of the South's industrial interests, have been more than their feeble minds could stand, and their envy and anger break forth in childish and impotent denunciation. The *Tradesman* some weeks ago undertook in a weak-minded way to point out errors in the list above referred to, using falsehood for fact and abuse for argument. We took the list of enterprises reported to have been started in their own town, Chattanooga, and proved that the very industries which they claimed were not in existence had been started as reported. Concerns that were in operation right under the nose of the *Tradesman's* editor, he had never heard of. It was shown that he was stupidly ignorant of what was going on in his own city in lines of business claimed to be represented by his paper, or else that he wilfully made statements that he knew to be false.

We regret to have to refer to the above howl. If the *Times* were a paper of any standing or possessed any sense of honor and decency, and could rise to the dignity of honest criticism, it would be worth while to reply to its assault, but to answer the insolent snarls of envious curs is a waste of time.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

C. E. Enslen & Sons, Birmingham, Ala., have contracted for the erection of their new bank building.

Chilton county, Ala., will build a new jail.

The Point Clear Hotel, Point Clear, Ala., have ordered electric light machinery for lighting the entire building.

There is a probability of a street car company being started in Anniston, Ala.

ARKANSAS.

The Pine Bluff Electric Light & Power Co., capital stock \$25,000, has been organized in Pine Bluff, Ark., to build electric light works.

The Crystal Ice Factory Co., of Argenta, Ark., previously reported, has been nearly completed, the cost being about \$35,000.

John A. Andrews and others, of Hot Springs, Ark., contemplate erecting a large brick hotel.

FLORIDA.

Jno F. Dunn, W. W. Peniston, R. D. Fuller and others, have organized at Ocala, Fla., the Homosassa Company, capital stock \$100,000, to improve water ways, engage in manufacturing, build hotels, &c.

The Silver Springs, Higley & Southern Railway Co. has been incorporated, with office at Higley, Fla., to build a railroad from Silver Springs to Lisbon, Fla.

C. M. Brown, D. A. Miller and others, Ocala, Fla., have organized the Ocala Street Railroad Co., to build a street railroad. Capital stock \$60,000.

Tampa, Fla., is considering a proposition of the Holly Manufacturing Company to build water works in that town.

S. A. Luckey, Willcox, Fla., has purchased a saw mill which he will move a short distance, overhaul and repair.

Leon Hotel, Tallahassee, Fla., lately burned will probably be rebuilt.

GEORGIA.

J. W. McLand, Calhoun, Ga., contemplates putting up a saw mill in Dellwood, Ga.

V. A. Wilson, Austell, Ga., is building a chair factory.

Lyman Chapman, near Milledgeville, Ga., will remove to Sandersville, Ga., and establish a brick yard.

The Southern Bank, Savannah, Ga., have adopted plans for their new bank building.

A saw mill is being built in O'Brien, Ga.

The Ragland Coal Mines, near Cedar-town, Ga., have been leased to a new company, which will operate them.

E. A. Fincher, Walesca, Ga., has finished his flour and grist mill.

KENTUCKY.

Calhoun, Ky., will probably have a new flour mill. A. J. Wells, of Wadesboro, Ky., will have charge of it, if built.

The Granger Mills, Owensboro, Ky., have been changed to the roller system.

The Kentucky Freestone Company, organized at Lexington, Ky., to do quarrying, has a capital stock of \$100,000.

Powell & Bro., Hickman, Ky., will establish a cooperage factory.

W. J. Myers, Princeton, Ky., has given out contract for rebuilding his flour mill.

The Oakland Tannery Co., capital stock \$50,000, has been incorporated in Louisville, Ky.

The Southern Soap Co. has been incorporated in Louisville, Ky.; capital stock \$50,000.

The officers of the Slatford Coal Co., previously reported as organized at Kuttawa, Ky., are J. H. Pierce, Dayton, Ohio, president, Chas. A. Phillips, Dayton, Ohio, secretary and treasurer, and Samuel McElfrick Princeton, Ky., superintendent.

P. Leeds, Master Mechanic of the Louisville & Nashville R. R., writes us that he thinks the rumored building of new shops at Louisville by the L. & N. R. R. is a mistake.

An \$18,000 college will probably be built in Mayfield, Ky. Rev. J. B. Briney can give particulars.

Blakeley, Stewart & Hankley will start a saw mill near Bainbridge, Ky.; have purchased machinery.

MARYLAND.

The Paducah Water Supply Company of Baltimore City, has been incorporated in Baltimore by Geo. R. Gaither, Chas. D. Gaither, Wm. C. Seddon, Wm. T. Riggs, Frank W. Hall, of Baltimore, and Chas. Reed and D. E. Wilcox, of Paducah, Ky. The corporation is formed for the purpose of supplying with pure water any towns or cities in Maryland and the city of Paducah, Ky. The capital stock is \$150,000.

Young & Colburn, Pocomoke City, Md., whose large saw mill was burned last week, (loss \$10,000) will rebuild at once, and will need new machinery.

NORTH CAROLINA.

T. A. White, Edenton, N. C., is building a \$7,000 hotel.

Another tobacco factory will probably be started in High Point, N. C.

Richard Williams, Morganton, N. C., has purchased machinery for a new saw mill.

SOUTH CAROLINA.

Geo. W. Taylor, vice president of the Taylor & Cox Steam Fire Extinguishing Co., will build a foundry, &c., at Belton, S. C.

John L. Baker, of Asheville, N. C., will probably establish a rustic work factory in Walhalla, S. C.

TENNESSEE.

The Rugby Pottery Co., Rugby, Tenn., has been organized; capital stock, \$15,000.

David Hicks, Felker, Tenn., has erected a new grist mill.

W. O. Dever, contemplates building a planing mill at Deltrose, Tenn.

The flour mill previously reported to be built at Dyersburg, Tenn. by H. Parks, Jr. and others, will cost about \$20,000. The name of the company will be the Forked Deer Milling Co.

The First Baptist Church, Knoxville, Tenn., will erect a new church building.

Jas. E. Gaines, W. M. Duncan, Thos. L. Marr, Isaac Litton and Roger Eastman, have incorporated the New Era Flour Mill Company, Nashville, Tenn.

Bell Bros. & Co., Springfield, Tenn., will build a new tobacco factory, having purchased a site.

The saw mill previously reported as being built at Rialto, Tenn., is being put up by the Askins & Dircks Lumber Co.; the capacity will be 40 to 50 M feet.

L. H. Russ & Co., Shelbyville, Tenn., will build a new wagon factory.

TEXAS.

W. L. Beckharn expects to build a \$15,000 hotel in Greenville, Texas.

The Palestine Eureka Cotton Gin & Corn Mill Manufacturing Co., Palestine, Texas, are trying to make arrangements to build a flour mill of about 50 barrels daily capacity.

Colorado City, Texas, having issued bonds for water works and sold them, the works will now be constructed.

A factory for making tiles has been started at Abilene, Texas.

W. R. Moffett & Son, Lancaster, Texas, contemplate building a flour mill at Waxahachie, Texas.

Murphy & Bolanz, Dallas, Texas, have awarded contract for the erection of a 3-story building to cost \$10,000.

A large corn chop and feed mill will probably be erected shortly in Dallas, Texas.

VIRGINIA.

It is reported that D. F. Houston, of Roanoke, Va., has purchased the Cotopaxi furnace near Greenville, Va., and will put it in operation.

The Mitchell Gold Mine in Orange county, Va., has been sold for \$10,000 to Northern capitalists who will develop it.

Harrisonburg, Va., will decide by vote, April 30, whether to spend about \$25,000 in building water works or not. Artesian wells with a large storage basin are said to be preferred.

John C. Griffin, Petersburg, Va., will probably rebuild the Exeter Mills, burned a year or so ago.

J. A. Hanger, Staunton, Va., has completed his hominy and corn mill.

J. C. Paxton & Co., South Boston, Va., will establish a tobacco factory, capacity 1,000 lbs. a day.

Charles Cook & John Mason, Gish's, Va., have purchased a site and will erect a flour mill.

The Kinney Tobacco Company, of New York, previously reported as intending to build a tobacco factory in Richmond, Va., have awarded contracts for the erection of the factory. About 2,000,000 brick and 1,000,000 feet of lumber will be required.

At the Brush-Creek gold mines, near Christiansburg, Va., the machinery is being received for a new stamp mill.

WEST VIRGINIA.

Joseph D. Dubois, Wm. Leighton, Jr., and A. W. Kelly, Wheeling, W. Va., have organized the Manufacturers Gas Company, capital stock to be from \$500,000 to \$750,000, to bore for gas, oil, &c.

The Mingo Junction Iron Works, of Wheeling, W. Va., are preparing to build a steel plant at Mingo in connection with their nail mill.

The West Virginia Hospital for the insane, Weston, W. Va., will receive bids till May 6 for the erection of a new building for this institution.

The Mount Carbon Company, of London, England, has been authorized to transact business in West Virginia. The company owns a large tract of coal land in Fayette county, and proposes to operate an extensive colliery there.

An iron fence factory is talked of in Charleston, W. Va.

The Blair Astronomical Clock Company has been incorporated in West Virginia to manufacture clocks, by James W. Carson, Cable H. Needles, Jr., W. R. Carson, all of Philadelphia, and others. Capital stock \$5,000.

The South Gaston Gas Coal Company, of Fairmount, Marion county, W. Va., previously reported, has been organized with the following board of Directors, Hon. J. N. Camden, Hon. James Morrow, Jr., Thomas F. Watson, E. W. S. Moore, James Edward Watson, Wm. A. Hanway and James O. Watson. Hon. James Morrow, Jr., was chosen president, and J. Edward Watson secretary and treasurer.

The Ohio River Coal Mining Company has been organized, with office at Parkersburg, W. Va., to mine coal &c., by W. C. Sharp, G. W. Allison, A. B. Barrett and others; capital stock \$50,000.

W. W. Wood & Co., Charleston, W. Va., are putting the machinery into their tobacco factory.

James McClurg and Henry Rummell, Charleston, W. Va., will build a skating rink 100 by 180 feet.

BURNED.

Saw mill of Miser & Snider, near Maryville, Tenn.

Gin and grist mill of David Nolan, Farmer-ville, La.

Mill of Samuel H. Mooney, Liberty Furnace, Va.; loss \$4,000.

A New Foundry.

BELTON, S. C., April 20, 1885.

Editor *Manufacturers' Record*:

Being vice-president of the Taylor & Cox Steam Fire Extinguisher Co., I would say that we are the largest dealers in iron piping, &c., in this section, and that we intend at an early day to erect a foundry, &c., at this place. Being dealers in machinery, we invite an investigation of our standing and a mention in your paper.

GEO. W. TAYLOR.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

Big Marble Works.

MARIETTA, GA., April 13, 1885.

Editor Manufacturers' Record:

Yours, asking if the Georgia Marble Company and the our company was one and the same, received, and in answer will say that they are two distinct companies. The Georgia Marble Company own and operate several marble quarries; also a small saw mill. Our company own several marble quarries in Georgia and North Carolina, but are not at present working them. We are also building one of the largest and best marble mills in the country at Marietta, Ga. In this mill we shall have all the best and most improved machinery for sawing and finishing marble that has ever been invented, and shall manufacture marble into all saleable shapes and styles. We have a contract with the Georgia Marble Company to supply us with rough marble in blocks for a certain time, but propose to open and operate our own quarries during the present year.

Yours truly, G. R. EAGER, Treasurer.

[The above is in reply to a letter of inquiry asking if the Georgia Marble Company, of Tate, Ga., and the American Marble-Cutting Company, of Marietta, were one and the same concern, though organized under different names, as this seemed to be the general impression in Georgia.]

Will Rebuild.

POCOMOKE CITY, MD., April 15, 1885.

Editor Manufacturers' Record:

We propose to rebuild our saw mill at once, and will buy new engine (80 horse-power,) saw mill, cross-cut and cut-off saws, shafting, pulleys, &c., planers, band saws, &c. Size of building, 58x84 feet. Our boilers good, and our business not much crippled. We shall buy for cash.

YOUNG & COLBURN.

PRINCETON, KY., April 13, 1885.

Editor Manufacturers' Record:

W. J. Myers will rebuild his flouring mill, lately burned, but will not rebuild woolen mill at present. Has already let contract for flouring mill.

F. W. DARBY.

CONCORD, TENN., April 14, 1885.

Editor Manufacturers' Record:

Have purchased some very valuable mica lands in Fannin county, Ga. Will organize as soon as possible to mine same.

P. F. CROOK.

BUFFALO, W. Va., April 14th, 1885.

Editor Manufacturers' Record:

We have bought the Morgan mills at Charleston, W. Va., and are going to operate as a full roller mill of 200 bbls. capacity, starting about 30 days from now.

L. A. CARR & CO.

RIALTO, TENN., April 16, 1885.

Editor Manufacturers' Record:

There is a saw mill building here which will be ready for operation by the 1st of May. The style of the firm is Askins & Dirck's Lumber Company. The capacity will be 40 or 50 thousand feet per day.

R. W. BIBB.

LOUISVILLE, KY., April 17, 1885.

Editor Manufacturers' Record:

I think the report in regard to new shops being built is a mistake.

P. LEEDS,

Master Mechanic Louisville & Nashville Railroad Co.

WORTHVILLE, N. C., April 17, 1885.

Editor Manufacturers' Record:

We are putting in 20 additional Lowell 36-inch sheeting looms; also one Harris-Corliss 125 horse-power engine.

J. M. WORTH MANUFACTURING CO.

Improvements at Spartanburg.

SPARTANBURG, S. C., April 17, 1885.

Editor Manufacturers' Record:

Our ice factory, hominy and grist mill were under construction last March, (1884,) but were not completed until last October. It is a 2½-story building, 77x47 feet, built entirely of wood. The machinery is run by a 30 horse-power engine, with 40-horse boilers. Our ice machine is turning out now about six (6) tons per day. About 250 bushels corn can be put through our mills, of which there are one of each. The shipping facilities of this place are very good, and when the Asheville & Spartanburg Railroad is completed, now in process of construction, we think they will be unsurpassed, as it thereby connects Spartanburg directly with the forest, and should bring the prices of grain, coal, &c., down to greatly reduced figures. We predict a brighter future for Spartanburg than she has seen in the past.

W. B. HALLETT & CO.

KNOXVILLE, TENN.

Editor Manufacturers' Record:

With the aid of other gentlemen of this place, I have developed a silver mine that is now ready for machinery, in the county of Watauga, N. C., ten miles from Cranberry, N. C., iron mines, the now terminus of the East Tennessee & North Carolina Railroad. The ore is a chloritic slate, containing a handsome per cent. of lead, silver and gold. There is a large vein with one hundred and fifty acres land and timber of the best quality and in great quantity, and a fine water power for all milling and mining purposes, while labor is cheap and the climate is not to be excelled. Near this mine we have as fine, if not the same magnetic iron ore as the Cranberry, though not developed. In the county of Caldwell, N. C., fifteen miles from Cranberry, I also developed and have now ready for machinery a very large vein of brown slate ore of the easiest milling quality that assays from \$16 to \$71 per ton free gold. This ore can all be quarried; the mine is free from water; the quantity of ore is immense; the tract of land contains three hundred and fifty acres; timber fine, and water power as good as the best, and of easy access by fair roads. The altitude is about four thousand feet on the south side, and three miles from top of "Grandfather," one of the highest mountains of the Blue Ridge. These mines are for sale, or arrangements to have them worked by reliable parties on shares will be preferred.

J. W. STEWART.

Another New Southern Furnace.

A correspondent at Janifer, Ala., of the Montgomery Advertiser, says: "Yesterday, April 16, at 4 p. m. the Clifton Iron Company's furnace No. 2, in the new town of Ironton, on the A. & A. railroad in Talladega county, went in blast. Less than one year ago there was not a 'stick amiss' at the place where now can be seen a well built and nicely arranged town of one thousand inhabitants, and a large charcoal furnace—a superior to which cannot be found in any of the States. The construction of this furnace plant has been under the personal supervision of Mr. S. N. Noble, Superintendent; and Mr. Samuel Noble, president of the company, and to their great skill and wisdom and thorough understanding of their business, is due the success that has attended their labors, and has brought to completion the best equipped charcoal furnace in the South. The plant is located at the foot of a range of our hills four miles long and half a mile wide, giving it access to inexhaustible quantities of the richest brown hematite ores in the South."

DENMARK, TENN., April 17, 1885.

Editor Manufacturers' Record:

We are putting up a saw mill here, and will be ready to go to work in a few days. We also have a grist mill and cotton gin.

J. W. REID & CO.

Law Department.Edited by B. HOWARD HAMAN, Attorney at Law
Baltimore, Md.

It is the province of this Department to reply to enquiries that may be made by our patrons respecting the legal aspects of any matter that may arise in their business. Any questions as to doubtful points of law will be answered without charge in this column. All questions submitted must be accompanied by the name and address of the sender, not however, for publication. Letters should be addressed, Editor Law Department, MANUFACTURERS' RECORD.

PHILADELPHIA, PA., April 17, 1885.

*Editor Law Department,**Manufacturers' Record:*

Dear Sir—Please inform me whether there is any difference, under the Maryland law, between the formalities for laying a lien for machinery furnished to a building, and a lien for material, such as lumber, bricks, etc.? Also, how long a time a merchant has for filing his lien against a ship for supplies.

Reply—There is no difference in the form of a lien for machinery and that for lumber, bricks, etc., but there is a great difference in substance. A lien for lumber or bricks, or work of men, is paid ahead of any mortgage put upon the building after it is begun, but a lien for machinery is postponed to all mortgages put on the building before the machinery is placed on the premises. Boat liens are good only for six months from the time the work is begun. There is no lien on boats for "grub."

ATLANTA, GA., April 18, 1885.

Dear Sir—Is it possible to get a judgment in your State against a man after he has assigned everything to his creditors?

Reply—If the debtor makes an assignment for the benefit of his creditors, this affects no one; if he goes into insolvency, all his creditors in this State, who receive proper notice of the insolvency proceedings, lose their claims, but foreign, i. e. out-of-State creditors, are unaffected.

BALTIMORE, April 20, 1885.

Dear Sir—I have heard recently a good deal of talk among merchants about making Baltimore a first-class station for the purchase and distribution of Government supplies. Is this city not already a first-class station for these purposes?

Reply—By no means. The War Department is now being petitioned by prominent merchants to make this a first-class station, and this should be done.

Legal Jottings.

The courts have decided that no boundary's fences can be made of barbed wire without consent of parties owning adjacent land, and any man who puts a barbed fence along the highway renders himself liable for all injuries resulting to stock passing along the highway.

It is proposed in Chicago to change the hour for jury trials so as to have them commence at 1 o'clock instead of 9 as heretofore. By this arrangement the juror would not be taken away from his business during the best part of the day. The court might occupy the interim from 9 to 11 in hearing equity cases, motions, arguments on instructions, and such matters.

The courts of Philadelphia have a puzzling question to decide. At a semi-fashionable ball given at the Academy of Music last winter, an elegantly dressed lady was ejected by order of the managers, because they thought her dress was cut lower than the regulation style called for. She therefore brought suit against the managers of the ball for damages for her outraged feelings in being thus publicly expelled from the academy. A legal wag has suggested that "Cooley on Constitutional Limitations" might be an authority on this matter.

The decision of the Supreme Court in the Virginia coupon cases has already sent Virginia bonds up ten points in the London market.

EDDYVILLE, KY., April 14, 1885.

Editor Manufacturers' Record:

I have leased my Pearl Lime Works to Messrs. Vogel & Lee, who propose to enlarge them, and burn and ship lime on large scale.

H. B. LYON.

Mitchell County, N. C.

BAKERSVILLE, N. C. April 15, 1885.

Editor Manufacturers' Record:

No county in this State can show such a marked change as Mitchell county,—a change from a rural population of small farmers to a vast mining camp; full one-half of the population are engaged in or interested in mica mining. This is the very centre of the mica mines,—cropping out all over the lower part of the county. Harrison & Abernathy, near Bakersville, Col. Geere, Spruce Pine, Garrett Ray, Burnville, are the oldest operators. Thousands have been taken out of the Charrissa, Sink Hole and Ray Mine annually. Many new discoveries are being made. The mines above named and some others were worked by the prehistoric race; traces of their primitive tools are found. New discoveries are being made every week. There is a ready cash sale for all mica mined here,—this county supplying over one-half of the mica used in the United States. Blocks of mica weighing one or two hundred pounds are taken from the mines squaring from 3 by 4 inches up to 16 by 18 inches, the latter worth 6 and 8 dollars per pound, according to quality.

Some very important new discoveries of mines used by ancients have been made: one of these on Wolf Branch, another on Big Crabtree.

This county is remarkably healthy, and a resort for summer travelers. In this village of 650 inhabitants, only 6 deaths have occurred in four years; only one child died in four years, and only one death the past twenty months; over fifty children born in the same period of time. This is a comparatively new county, and is destined to be one of the best for manufactures in the State. Parties are now looking at the timber and splendid water powers. On some point on the newly-projected railroad, an inland city will spring up like Asheville. The celebrated Cranberry Iron Works are in the upper part of this county, employing some 100 men. What was a dense forest a few years ago is now a thriving mining town.

S. WORTHEN.

HELENA, ARK., April 14, 1885.

Editor Manufacturers' Record:

We propose to open the Helena Manufacturing & Laundry Company very soon. Have a committee now investigating as to the best machinery to buy. Will begin with a capital of paid stock of \$4,000.

JNO. P. MOORE.

THE prosperity of the Baltimore *Sun*, as shown by the statement published in another column, ought to be particularly gratifying to every one interested in the welfare of Baltimore, for there is no better evidence of the growth and prosperity of a city than the prosperity of its local papers. The *Sun* is a vigorous champion of every enterprise calculated to benefit this city, and hence it well deserves the high esteem in which it is held by all Baltimoreans. While it is an able and excellent paper from every point of view, it is particularly a "family paper," in that it carefully excludes from its columns everything of a sensational character. As an advertising medium it is too well known to need any commendation. Its steadily increasing advertising business, even during the dull times, proves its great value in this direction. In this connection we are glad to say that despite the industrial and trade depression, the MANUFACTURERS' RECORD, like the *Sun*, finds its business largely on the increase, having been from 35 to 40 per cent. greater in 1884 than in 1883, with the prospects for a still larger gain in 1885.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

Fourteen-Foot Boring and Turning Mill.

We illustrate herewith the large vertical boring and turning mill recently built for the Harlan & Hollingsworth Company, iron steamship builders of Wilmington, Del. It swings 14 feet in diameter, and takes in 10 feet high under the tool holders. The cone pulleys have five speeds for a 4-inch belt, which, with the geared head and changeable gears below, give sixty changes on the face plate. The face plate is $8\frac{1}{2}$ feet in diameter, arranged with radial slots for holding work. The spindle is carried on a cast-steel step, and, in case of turning heavy work, is so arranged that the face plate can be lowered on an annular bearing to relieve the step, and at the same time assist in steadying the work. The crosshead is raised and lowered by power, and carries two saddles with vertical spindles, one of which will move to the center for such work as boring, and the other will approach as near the center as is ever required on any class of work on which two tools can be used advantageously.

The spindles have 52 inches movement, quick hand return, and are counterbalanced. The feeds are positive and vertical, horizontal and angular, and are entirely independ-

Waste and Economy in Cotton Manufacturing.

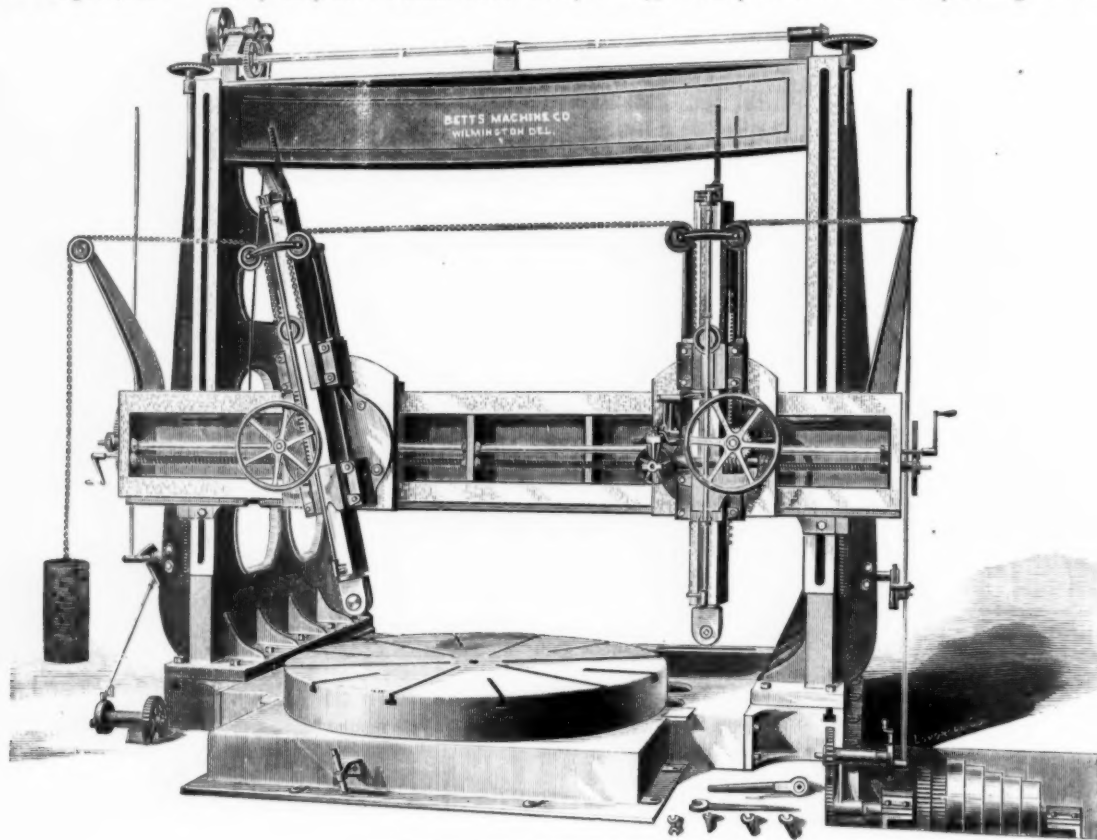
In a previous article I have shown that where in a cotton mill the increase of waste is 8 per cent. more than need be, it shows a clear loss of 24 cents per hundred pounds of production—a consequence of trying to force a large quantity of cotton through a smaller number of cards than should be used where the greatest economy is desired. But 24 cents per hundred does not represent the total loss sustained, for the reason that when delivered by the card the cotton has increased in value, the dirt has been removed from it, labor and power and the use of machinery have been expended in bringing it to that point, and it is worth more than it was in the bale, when only 12 cents per pound was paid for it.

It is probably worth 15 cents per pound, and every pound lost at the card will represent that much, less what the value of the waste may be.

The value of that labor, power and machinery being entirely lost on 8 pounds in each 100 pounds, would be an additional loss of 24 cents on every hundred pounds, which, added to former loss, shows a total of 48 cents loss on every hundred pounds worked, which is very near $\frac{1}{2}$ a cent per

Suppose it to be worth 18 cents per pound; then that is the loss on each pound of waste less the actual value of the waste. Now, this waste does not have the value of good fly, and cannot be rated as worth more than 6 cents per pound, so that every pound of waste made in the spinning room shows a dead loss of 12 cents.

We have only to ascertain by weight what amount we are making, and by observations of the most careful places how small a quantity it is possible to make. Where yarn is coarse the amount will naturally be greater than where yarn is fine; but I will assume a medium number of 20s. The amount of waste may be from 1 to $1\frac{1}{2}$ per cent., and should not exceed the latter. Yet there are many places where 3 per cent. is common; and in some instances 4 per cent. is made. This is a very great and serious deduction from the profits. It is a difference of $2\frac{1}{2}$ per cent. more than need be. Now, $2\frac{1}{2}$ per cent., at 12 cents per pound, represents 30 cents on every hundred pounds of production in the spinning alone, which, added to the loss shown on cards where that much waste is made, makes a total loss of 78 cents per hundred pounds of production. And it is very likely—because often found in practice—that where this state of thing exists there is an extra percentage of waste made



FOURTEEN-FOOT BORING AND TURNING MILL.

ent one of the other in all their movements. Each saddle has its own feed motion, enabling one to be used with fine and the other with coarse feed at the same time.

This mill has been commended for its sterling qualities as a machine tool, with reference to its general utility. It is powerful, heavy in all its parts, and has large shafts. The driving gears are cut from solid metal, and are of such proportions as are necessary for the heaviest class of work. The ratio of gearing is 232 to 1.

The total weight of the machine is over 110,000 pounds. It requires a floor space 24 feet by 16 feet, and a height above the floor of 20 feet.

To one of the heads is attached a fixture for slotting key-seats, either in straight or taper holes, which is often advantageous when the work is too large to get to an ordinary slotter, and inconvenient to handle elsewhere.

The builders of this tool are the Betts Machine Company, Wilmington, Del.

WASHINGTON, N. C., April 15, 1885.
Editor Manufacturers' Record:

My saw mill has been burned; I will rebuild as early as possible.

R. C. CHERRY.

pound. This goes to show that it is of the greatest importance that the speed and the weight of cotton run through the cards should be so regulated, or so reduced, as to produce the least possible amount of waste practicable; for every pound of waste made from the card shows a clear loss to the manufacturer of 7 cents, whether it is sold or used in other operations.

And so the operations may be followed through; for it is often the case that the drawing frames are running at too high a speed, having frequent roller laps, cleaner waste coming through and breaking the sliver in the conductor, making continued waste and many piecings. Now, every pound of waste made then is an addition to the loss, and the cost is being increased. The same with slubber, intermediate and speeder. By the time the cotton has passed through them, another cent per pound has been added to its value.

SPINNING WASTE.

Now we come to the spinning frame, the last operation to produce yarn; and whatever waste is made here has cost the full price of yarn, whatever that may be worth.

in drawing frames, speeders, slubbers and spoolers which I have not calculated in, but which might very easily raise the loss to a total of 1 cent per pound; and this means for an excess of waste that could be avoided.

What should we think of our prospects of success in these close markets if we had to pay $\frac{3}{4}$ of a cent to 1 cent per pound more for our cotton than some others were paying? And yet that is just what we are doing when we are making this increased percentage of waste.

Regard this fact: A factory whose production is 20,000 lbs. per week, with this wastefulness, would lose ten thousand dollars per annum—a dividend of 5 per cent. on a capital of \$200,000!—LEX. in the Textile Record.

CINCINNATI, O., April 15, 1885.

Editor Manufacturers' Record:

Besides manufacturing fire apparatus, we are builders of fine carriages, and jobbers of hose, brass and rubber goods, and fireman's supplies. We think of separating our business and building an apparatus factory in Lexington, and begin manufacturing also steam and chemical fire engines. Should we do so, will incorporate that branch with capital of \$100,000, and employ then, at the start, about 60 to 80 hands.

HORTON & CO.

List of Patents

The following Patents were granted to citizens of the Southern States, bearing date April 14, 1885. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Arnold C. B., Glencoe, Ky. Hand corn planter.	315,883
Avery, J. R., Louisville, Ky. Car-coupling.	315,884
Beach, W. P., El Paso, Texas. Cartridge-belt.	315,698
Blaine, G. E., Chattanooga, Tenn. Dumping-car.	315,892
Bryce, Robert, Louisville, Ky. Manufacturer of hydraulic cement.	315,711
Buckner, M. L. S., Shelbyville, Ky. Aerial drop for explosives.	315,712
Colloway, J. W., Temple, Texas. Door-check.	315,718
Campbell, Loudon, Alexandria, Va. Apparatus for lighting the fires of steam fire-engines.	315,721
Cart, F. G., Charleston, S. C. Collar-button.	315,907
Carter, F. W., Morgan, Texas. Meat-tender.	315,723
Caughy, N. W., Baltimore, Md. Portable laboratory for dentists and jewelers.	315,725
Childers, H. H., Louisville, Ky. Extension-trestle.	315,726
Coale, J. M., Baltimore, Md. Muffler and safety-valve.	315,732
Cowley, J. T., Baltimore, Md. Store-service apparatus.	315,739
Cragg, S. W., Baltimore, Md. Construction of pavements.	315,740
Craig, J. A., Lauderdale, Miss. Car-coupling.	315,602
Curlin, Seth, Covington, Tenn. Marine velocipede.	315,740
Davies, J. D., Natchez, Miss. Pump.	315,485
Dunn, John, Jacksonville, Fla. Dumping-scow.	315,918
Ezell, F. L., Nashville, Tenn. Fifth-wheel.	315,926
Henry, J. J., Baltimore, Md. Car-brake.	315,780
Hoskins, J. G., Baltimore, Md. Can-filling machine.	315,622
Johnson, Josee, Norfolk, Va. Peanut cleaner and grader.	315,793
Jones, Wiley, Norfolk, Va.	315,631
Kimbrow, Jerrimiah H., and J. A., Georgetown, Texas. Planter.	315,635
Law, J. B., Darlington, S. C. Plow-gage.	315,799
Lloyd, A. P., and F. Y. McDonald, Baltimore, Md. Lighting device for street lamps.	315,802
Magruder, H. C., Richmond, Va. Car-coupling.	315,804
Martin, O. D. D., Augusta, Ga. Car-coupling.	315,647
Newnam, Thomas, Wainwright, Ga. Saw-swage.	315,820
Painter, William, Baltimore, Md. Bottle-stopper fastener.	315,655
Curdy, Z. V., Louisville, Ky. Horseshoe-machine.	315,961
Scott, Alexander, Cronly, N. C. Fiber-rubbing machine.	315,666
Serdinko, John, New Braunfels, Texas. Rotary force-pump.	315,667
Stitzel, Frederick, and C. Weinedel, Louisville, Ky. Telegraphic-relay.	315,568
Taylor, G. W., Baltimore, Md. Sheet-metal can.	315,854
Turner, J. M., Triune, Tenn. Latch.	315,978
Von Hollen, John, Charleston, S. C. Shutter-bolt.	315,681
Von Hollen, John, Charleston, S. C. Shutter-fastener.	315,979
William, R. E., Dallas, Texas. Bag-rack.	315,688
Woods, A. P., and W. E. Lindsay, Baltimore, Md. Green-corn cutting machine.	315,588

A New Wagon Wheel.

Col. Joseph Barbierre, of Tennessee has invented a new wagon wheel, for which the following claims are made: "It is made of iron. The serpentine spokes are of wrought rod tubular iron, making it stronger and lighter. They are fastened to the rim by the T clip, giving additional strength to the rim, without perforating the same. The spokes of tubular iron rest in a socket on the spindle, in such a way as to combine the most strength with lightness and durability. It can be manufactured at lower figures, in half the time it takes to put the present wheel together and be fully as light a wheel as the one now in use. All pressure on a wheel is from without, the safety wheel through its inside clip and shoulder brace resists securely from within. The shape of the spoke and the withdrawn hub prevents any possibility of collision from passing wheel or wagon pole." A model of this wheel is on exhibition at Woodruff & Olivers, Memphis, Tenn.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year or six months for \$1.50.

Screw-Cutting Engine Lathe.

This lathe is built from new patterns and designs, and is made with special convenience for quick and easy handling, combining these qualities with the greatest solidity.

The lathe swings 19 inches over ways and 12 inches over carriage. The live spindle is made of the best forged cast steel, with front bearing $2\frac{1}{2}$ inches diameter and 5 inches long. The boxes are made of the best (special) gun metal. This lathe is designed to do heavy work to its full swing, and is constructed so as to be handled with the greatest ease and rapidity, there being nothing too heavy or cumbersome about it, but at the same time every part is perfectly solid and strong. The cone pulleys are of large diameter for 3-inch belt, making it very powerful. Special care is taken to have the bearings of the spindle perfectly cylindrical, which insures the work turned being round. All gearing is cut with the most improved cutters, making the running almost noiseless. The carriage is gibbed directly under the shears, and fitted to a perfect bearing. Every lathe is fitted with power cross feed and clamping screw for holding carriage rigid. The gearings inside the head are steel, and can be disengaged from the

Iron Making in Barrow, Eng.

[Robert P. Porter in Chicago Inter-Ocean.]

BARROW-IN-FURNESS, ENG., March 23.—It would have been impossible to have seen what I shall term the twin American manufacturing towns of England, Middlesboro and Barrow, under the guidance of one better qualified for the task of guide and adviser than Mr. I. Lowthian Bell. In all matters appertaining to iron and its manufactures Mr. Bell is the foremost man in England and a recognized authority throughout the world. He has been commissioned to the principal world's expositions and has visited the iron centers of all iron-producing countries, and studied for himself the quality of the ore, the nearness of coal, and the methods of manufacture. There is no English authority on iron better known or more widely respected in the United States than Mr. Bell, and to be taken in hand by him I regarded as a special piece of good fortune. His book, just published, "Principles of the Manufacture of Iron and Steel," is one of the most exhaustive and useful treatises on the subject we have had in recent years, and, moreover, goes into the economic phrases of the question with a considerable degree of fairness for one so closely wedded to the doctrine of free trade

year 1710, but it was the advent of the Barrow Hematite Steel Company that increased the population of the town from 3,000 in 1851 to 8,000 in 1861, to 18,911 in 1871, to 47,111 in 1881, and to 55,000 to-day. I have visited the principal iron and steel works of the world, including Krupp's at Essen, Germany; Schneider's at Creusot, in France; Cockrill's at Seraing, Belgium; Armstrong's at Newcastle; Bolckow & Vaughn's at Eston; Bell Brothers' at Clarence, and must say that while some of them employ a larger number of hands none of them are more complete in every particular than the Barrow works. A brief description of these works can not fail to be of interest in the United States, particularly to iron manufacturers.

There are altogether sixteen blast-furnaces, fourteen of which are built in a single row, while the remaining two are distant about half a mile. The weekly production of the blast-furnaces averages when fully employed 5,500 to 6,000 tons. The average height of the furnaces is about sixty-three feet, none of them reaching the height of the Middlesboro furnaces. The blast is partly heated by Whitwell's, partly by Cowper's, and partly by Ford & Banker's stoves. The average consumption of fuel is one ton of coke per ton of pig iron made. The ore is obtained at the company's own mines in the vicinity,

adjacent premises. The brick around the boilers is whitewashed and the doors of the furnaces are blackened, and all the rubbish swept up, giving the works an unusually neat appearance.

The blast-furnaces are distant about 200 yards from the steel works, the intervening space being occupied by sidings and filling sheds, and a spacious cast-iron bridge, spanning the whole of these sidings, connects the one department with the other. The steel works are in three large bays or roofs, each 700 feet in length. The productive capacity of the steel works is 3,500 tons per week. Rails constitute the principal branch of manufacture, there being three large rail mills, one plate mill, and one smaller mill for merchant steel. There are eighteen converters and twelve steam-hammers.

I asked Mr. Bell if he had looked into the question of the cost of producing Bessemer pig iron in England and the United States, and he replied he had given it the most careful consideration in all its bearings.

"What is the result?" I inquired.

"Not only did I study the question when in the United States," responded Mr. Bell, "but more recently I have been favored by American friends with tabular statements of the actual number of men employed at their respective furnaces. By comparing these with what may be considered the average practice in the best arranged of our modern English furnaces, the comparison points to the conclusion that in those of the United States one-sixth more men for each furnace is required for producing less than half the quantity of iron. Besides this difference, the present average earnings of the staff being higher in America than in England, the cost of labor on a ton of pig iron in the particular cases compared is in the former more than double what it is in the latter."

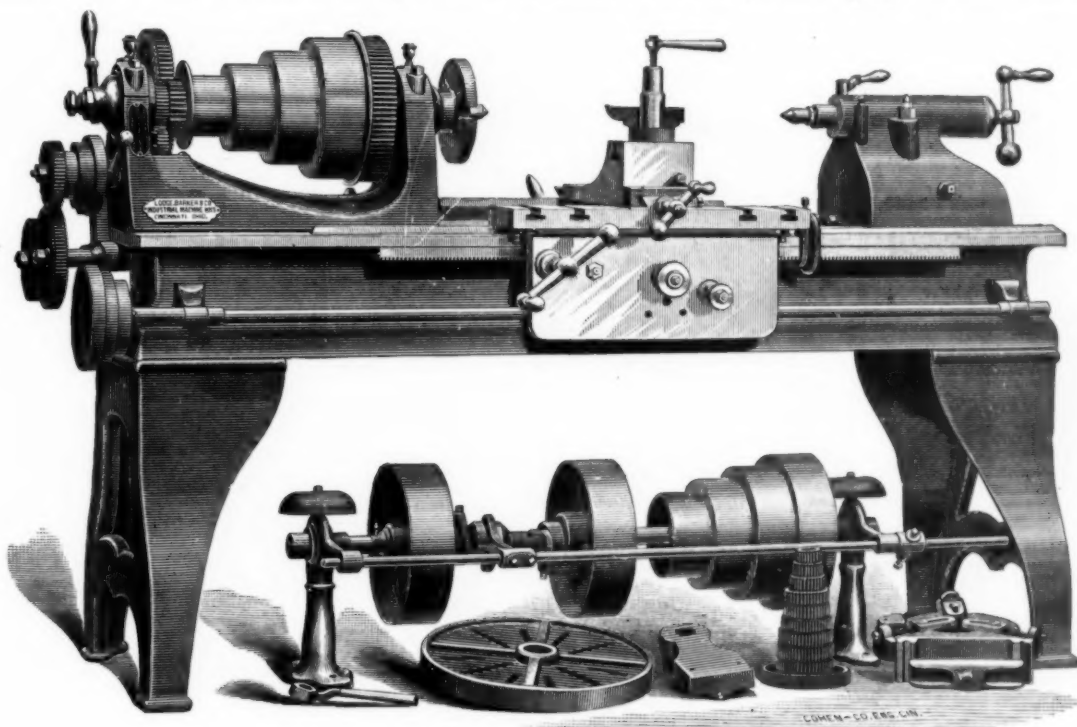
The portion of the above statement referring to the employment of a greater number of hands to do the same work in the United States is a surprise to me, and I hope some of our blast furnace men will explain it. As the labor engaged in mining and conveying the raw materials to the furnace and smelting the ore forms about 80 per cent. of the cost of pig iron, it is easy to understand the cost of production is nearly, if not quite, double in the United States, but it does seem strange that we employ one-sixth more men for producing half the quantity of iron. Mr. Bell is positive on the question. Who is prepared to question the statement?

"Taking the entire range of iron making as a whole, what should you say, Mr. Bell, as a free-trader, and as a man who has studied the subject for forty years, is the difference in the cost of producing iron in England and in the United States?"

"I have arrived," said Mr. Bell, "at the conclusion that we are within the mark in saying that the entire range of iron making, as a whole, costs the American community for labor something like double what it does the British nation."

In some instances Mr. Bell explained to me that he thought this arose from the price per ton or the daily wage actually paid being in accordance with this difference; but he also contends that there is another way in which a man may improve his position, by insisting on additional help, and by himself doing less work. Here we have a free-trader and a scientific man examining these facts in relation to the cost of production in America and in England and arriving at precisely the same conclusion as I have done. Yet hundreds of free traders who have never taken the trouble to look into the matter at all have denied this, some actually declaring that the cost of labor in the two countries was about the same, the difference being made up in the extra ingenuity of the American workman and his capacity to do more work than his foreign competitor. Mr. Bell flatly denies this, and declares that the American workman does less and is paid more.

Now, gentlemen, what will you do with Mr. Bell?



SCREW-CUTTING ENGINE LATHE.

spindle when the lathe is running at a high speed. The lathe has improved rod feed, entirely separate from screw; and the cross feed screw, tail screw, and all studs are made of steel. The accuracy and workmanship on this lathe are guaranteed by the manufacturers, Messrs. Lodge, Barker & Co., of Cincinnati, O., who will furnish any further particulars desired.

THE May number of *Cassell's Family Magazine* is remarkable for the number and variety of its stories; long and short, grave, and gay, all are here offering their various attractions to the reader. The serials of this magazine are among the most interesting now being published. Sergeant Ballantine's book on America is reviewed here at length and rather sarcastically treated. The reviewer seems inclined to poke fun at the talkative old Sergeant. The Family Doctor writes on "Reform in Diet and Cookery," a subject of vital importance, but in which, alas, people are too little interested. Even if they listen they are too indifferent to put the advice into practice. Mr. Wm. Trant describes "A Pilgrimage to Buddha's Tooth," in company with the Prince of Wales. The illustrations of this number brighten almost every page, and poetry and music add charming variety.—Cassell & Co., limited, New York. \$1.50 a year.

as Mr. Bell is. Mr. Bell has vast interests both in Middlesboro and Barrow, and I was afforded every possible opportunity to study Middlesboro under the direction of Mr. Bell and his son, Mr. Hugh Bell, together with Mr. H. G. Reid, the proprietor of the *Middlesboro Gazette*, and one of the partners of Mr. Andrew Carnegie in the syndicate of English newspapers.

This letter will deal with Barrow and the iron industry. * * *

The comfort of the working people of Barrow has not been neglected to such an extent as I regret to say it has in so many of the industrial centers of England. There are workmen's baths, workmen's clubs, workmen's reading-rooms, workmen's coffee and cocoa rooms, and, of course, as in all British towns, workmen's gin-shops. Barrow and Middlesboro present to my mind the best examples of English iron centers; South Wales, Sheffield, and parts of Staffordshire and Worcestershire the worst. The change from iron to steel perhaps more than anything else has had to do with the growth of the two great Northern centers of the British steel trade, and the old districts are left far behind. Charcoal iron has been made of the iron ore of the district for centuries. I was shown a furnace on the estuary of Morecambe Bay which was originally built in the

and averages about 60 per cent. of metal. The consumption of lime-stone is almost nine cwt. per ton of iron made. The blast is heated to a temperature of 900 to 1,100 degrees. Each furnace is fitted with six tuyeres, the diameter of the nozzle being three and a half inches to four inches. The larger furnaces have a bosh of twenty feet in diameter, and the smaller ones a bosh of nineteen feet. The engines that blow the blast are a remarkable feature of the iron works. There are three beam and eighteen grasshopper engines. Of the latter kind there are ten in one engine-house. As I stood watching these monsters working, the chief engineer of the works, Mr. R. Collenette, said: "You are in the largest engine-house in the world."

The hoists are inclined planes, and are worked by special engines, there being a separate engine for each of the six inclines that are attached to the fourteen furnaces. The furnaces are fitted up with the apparatus for the utilization of the waste gases, which are sufficient to supply all the heaters and boilers without any other fuel. One of the effects of this is to make the Barrow works the cleanest establishment of the kind in the world. Added to this, the system of disposing of scrap and slag is so perfect that no waste material is scattered around the

Improved Tin Roofing.

We exhibit in the accompanying illustrations the appearance and method of laying an improved form of tin roofing manufactured by the Anglo American Roofing Company, of 22 Cliff street, New York, which is offered to the public as possessing many features of advantage over the ordinary forms of tin roofing in which the plates constituting the roof are joined by soldering or double-seaming. The form about to be described falls in the category of what is called metallic shingle roofing, the individual tiles, or shingles, constituting it being ribbed or corrugated in such a manner as not only to permit of being held firmly in position by dovetailing into each other, but also to provide for expansion and contraction in all directions. Soldering is thus dispensed with, the attachment of the dovetailed places being effected with ample security by means of nails, which are covered by the overlap of the neighboring plates.

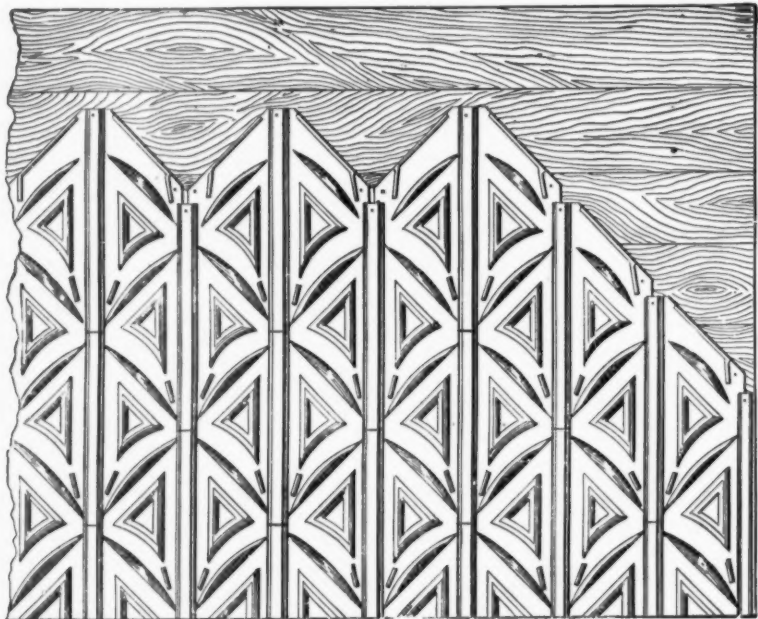


FIG. 2—SECTION OF A ROOF COVERED WITH THE D. T. ROOFING PLATE OF THE ANGLO-AMERICAN ROOFING COMPANY.



FIG. 1—SHINGLE PLATE OF THE D. T. ROOFING, ONE-EIGHTH FULL SIZE.

Figure 1 exhibits the form of a single shingle (one-eighth full size,) which is struck up from a 15x15-inch tin plate, and when laid and properly attached to its adjacent plates, exposes a surface of 12x12 inches to the weather. This proportion is observed for convenience in calculating the amount of material required for the covering of a roof, since it is easy to remember that 100 such shingles, when laid, will cover a space of 10 by 10 feet, or just 100 square feet.

Figure 2 exhibits the manner of laying the shingles, which are attached to sheeting-boards, or to lath, as may be desired. By consulting this figure, it will be seen that the center rib of each shingle is made so that the rib of the shingle above slips over that of the one beneath, the lower end of each

rib being made, for this purpose, about one-eighth of an inch wider than the upper end. In laying, the sheets are laid in courses commencing from the lowest part of the roof, and working upward. As each successive course is laid, each of these ribs is nailed at the upper end. The flanges of the adjacent shingles are overlapped by the center rib. Each course of the shingles overlaps that below it by three inches, forming thereby a "dovetailed" point, by which the adjoining plates are held firmly together, and yet in such a manner (the lower half of each being free to move) that each plate may adapt itself perfectly to expansion and contraction. Figure 2 shows the manner of laying the roof of such shingles, the manner in which the plates dovetail into each other, and the method of nailing the under and overlapping plates to the roofing boards being clearly exhibited. The style of roofing plates here described are known by the trade name of D. T. roofing plates, for the reason that the center rib of each slipping over the one

beneath it forms, with its neighbor, a "dove-tail" joint.

The makers claim for this roof that it presents an ornamental appearance; that it lays almost as tight as though it were soldered; that it can be laid by any carpenter; that it provides for expansion and contraction, and that it is as cheap as the ordinary tin roof. They recommend for use thin plates made of the best charcoal iron coated with pure tin, as affording better protection against oxidation than the terne or leaded plate. They make, also, the same style of roofing plate in iron, both painted and galvanized. It is hardly necessary to add that this form of metallic shingle roofing is not intended for flat roofs, but for such roofs as are adapted to receive slate or the ordinary wooden shingles.

The director of the United States mint, estimates the production of gold and silver in the United States during 1884 to have been: Gold, \$30,800,000; silver, computed at the silver dollar coining rate, \$48,800,000—total, \$79,600,000. This shows an increase over the yield of the previous year of about \$800,000 gold and \$2,400,000 silver. The total deposits of gold at the mints during the year amounted to \$50,518,179, of which \$30,807,200 was reported as domestic. The exports of gold bullion, exclusive of United States bars, amounted to only \$115,000.

The *Railway Review*, of Chicago, has secured the services of Mr. Willard C. Tyler as associate editor and will open an office in New York under his management. The *Review* and Mr. Tyler are both to be congratulated upon this arrangement, for the *Review* is a good paper and Mr. Tyler is a good newspaper man. We wish both the fullest measure of success.

Melting and Moulding Old Steel Rails.

Columbus has done what no other foundry in the United States has ever done, *i. e.*, accomplished the feat of melting steel scrap in an ordinary cupola. This has been done by Mr. Robert E. Masters, foreman of the Columbus Iron Foundry. The iron works had tons of steel scrap on hand which they considered dead stock, and Mr. Masters summoned his ingenuity to make it profitable and useful. This steel was of a class of steel known as plow or agricultural steel, and he succeeded in melting some 70,000 pounds of it and making it into plow points with complete success.

Yesterday the iron works made another step forward in foundry practice—that of melting rail. The way this came about was that the iron works were solicited by the general superintendent of the Baltimore & Ohio railroad to instruct them in the method of steel melting. As there are thousands of tons of old steel rails in the country of no value, Mr. Masters got the president of the iron works to let him undertake to melt the rail. He cut the rail into pieces one foot long and made a trial heat of 1,000 pounds. He succeeded in producing some very fine castings, at a rate of five pounds of steel to one pound of fuel consumed at a temperature of about 3,000 degrees. Thus the Columbus Iron Works scores another feat in foundry practice that has never heretofore been accomplished.

Sometime ago the Scientific American stated that steel scrap had been melted in a foundry in Germany by making some changes in an ordinary cupola and Mr. Masters concluded if it could be done there it could be done here, and the experiments by the iron works shows that the conclusions were right. This feat has been duly appreciated by the company, as they made a contract with him last night to take charge of the foundry for another year, though several large foundries at the North had endeavored to secure his services.—Enquirer Sun, Columbus, Ga.

The New York Sun, after reciting the disadvantages under which the New Orleans Exposition has labored, says: It has been planned upon a scale of surpassing audacity and it has been wrought to its present completeness with a degree of energy, courage, and determination almost incredible. It is impossible to conceive of its magnitude or its comprehensiveness from any description, and it is only simple justice to the remarkable men whose achievement it is, to admit their assertion, which when it was first made seemed ridiculous, that it would be found to surpass any previous exhibition in any part of the world, has been more than justified.

Its pecuniary failure is, after all, an incon-siderable matter as compared with its success as an American exhibition and its incalculable importance to the Southern States. Its less direct but weightier purpose as a manifestation of industry, enterprise, and capacity has been attained in a degree that its projectors never ventured to hope for. People from the North and West who have the good fortune to visit it, and who give some thoughtful and attentive scrutiny to that part of it which more intimately concerns and represents the South, come away with an entirely new impression of the Southern people of to-day, of their shrewdness, their broad executive capacity, and their extraordinary force and energy, Northern visitors see things in a new light; they have their eyes opened to the character of the heaven which has been working since the war among a people wholly prostrated and overthrown, and which has brought about their political and social regeneration in a fashion that is nothing if not American.

New Orleans for the Northern visitor, in respect of his natural preconception of it, his knowledge of its traditions and its his-

tory, has many disappointments, and they are for the most part of a gratifying character.

Literary Notices.

MY LADY POKAHONTAS—A true relation of Virginia. Writ by Anas Todkill, Puritan and Pilgrim, with notes by John Esten Cooke. Houghton, Mifflin & Co., Boston, publishers.

Mr. Cooke, at all times a popular writer of history and romance alike, has well sustained his excellent reputation in this volume, which combines both. According to the preface, "Anas Todkill was a brave and trusty soldier of the first Virginia years; adhered to Smith in all his struggles with the factions at Jamestown; took part in the fierce combat with the Indians on the York and Rappahannock; and his name is signed to a number of the old 'relations' as both actor and author." It is a love story of the olden times, deeply interesting and told in a charming manner. The printing and binding are in the highest style of the art.

THE *Sentinel*, of Winston, N. C., is as enterprising as the town in which it is published, and that is saying a good deal, for Winston is a live place. The *Sentinel* issued last week a very large special double sheet edition filled with matter of much interest. The prosperity of this paper under its present management has been remarkable.

E. W. BLISS, Brooklyn, N. Y., is employing 100 more machinists than a month ago, owing to receipt of new orders from a variety of sources.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

THE MARKETS.

OFFICE MANUFACTURERS' RECORD,)
BALTIMORE, April 21, 1885.)

From some sections and in some lines of trade business is reported as improving, but in general it may be said that trade is very quiet and no one seems able to give a satisfactory reason why it is so, or, when more activity may be safely counted upon. In former times of depression, a revival of business has often come suddenly and when least expected, so it may possibly do in this case, and we may even now have greater activity in trade than we anticipate.

In manufactured iron there is no change, business continuing dull and depressed, with prices nominally as follows, viz:

Ref. Bar Iron, 1 to 6x3/4 to 1.....	1 1/2 @	1.8c
" " " 1 to 4x3/4x1 1/2 to 1.....	1 1/2 @	1.8c
" " " 3/4 to 2, round and.....	1 1/2 @	1.8c
square.....	1 1/2 @	1.8c
Hoop Iron, 1 1/2 wide and upward.....	2 1/2 @	2 1/2 c
Band Iron, from 1 1/2 to 6 in. wide.....	2 1/2 @	2 1/2 c
Horseshoe Iron.....	2 1/2 @	3 c
Norway Nail Rods.....	5 @	5 1/2 c
Black Diamond Cast Steel.....	9 @	10 c
Machinery Steel.....	3 1/2 @	4 1/2 c
Spring Steel.....	3 1/2 @	4 c
Common Horse Nails.....	8 @	9 c
Railroad Spikes, 5 1/2x9-16.....	2 @	2 1/2 c
Perkins Horse Nails.....	3 1/2 @	3 1/2 c
Mule Nails.....	4 @	4 1/2 c

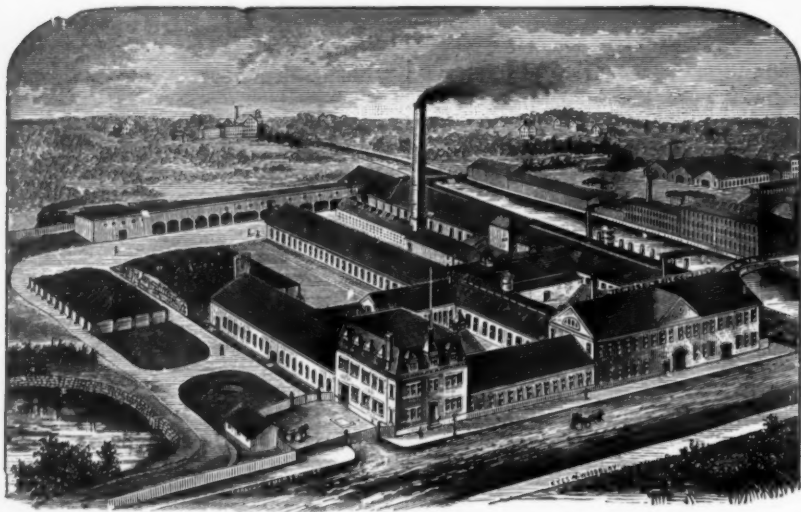
The pig iron market shows no change, the volume of business being limited to the filling of orders needed for immediate consumption. We quote as before, viz:

Baltimore Charcoal Wheel Iron (all Baltimore ore).....	28 00 @	29 00
Virginia C. B. Charcoal Wheel Iron.....	28 00 @	29 00
Anthracite, No. 1.....	19 00 @	20 00
" " " 2.....	17 00 @	18 00
" " " 3.....	15 00 @	16 00
" " " Mottled and White.....	13 00 @	14 00

HARDWARE.

There is but little business being done, and here, as elsewhere, the hardware trade is rather unsatisfactory.

The screw manufacturers are still fighting among themselves, there being no change

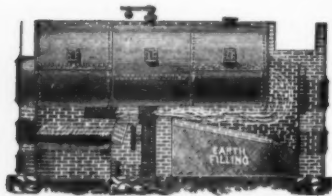


Nicholson File Co.

Works—PROVIDENCE R. I.—1882.

JARVIS PATENT FURNACE

FOR SETTING STEAM BOILERS.



Economy of Fuel, with increased capacity of Steam Power. Like the **Siemens Process of Making Steel**, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

Jarvis Engineering Co.,

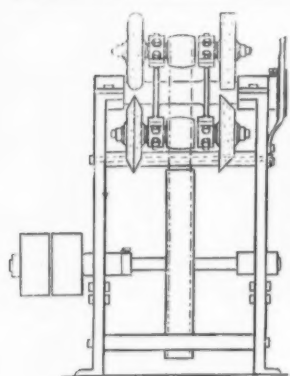
A. F. UPTON, Treas. and Gen'l Manager,
61 Oliver St., Boston, Mass.

JOSHUA C. COE, Agent for Maryland and Virginia,
O'Donald's Wharf, Baltimore, Md.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston Ala.
J. P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matoaca and Battersea Mfg. Co's.,
Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond, Va.
Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus, Ga.
Lenoir Manufacturing Co., Lenoir, East Tennessee.
Vanceuse Mill, Graniteville, S. C.



BLAISDELL'S
Eight Wheel Emery Machine,

FOR GRINDING
ALL KINDS OF IRREGULAR CUTTERS.



GOODELL & WATERS.

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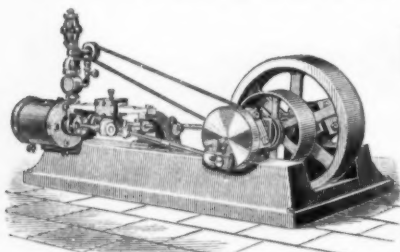
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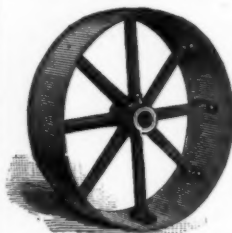
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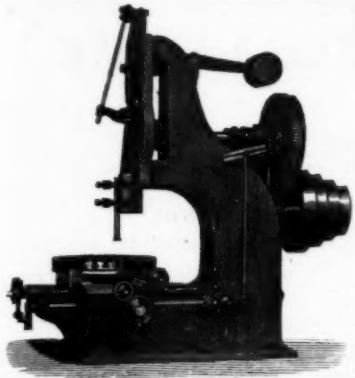
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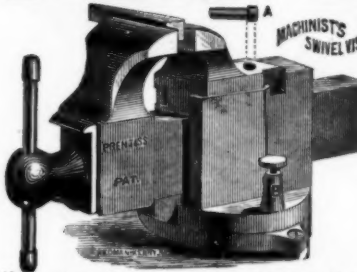




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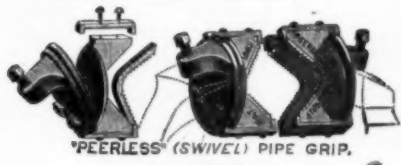
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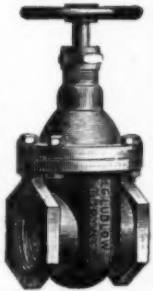
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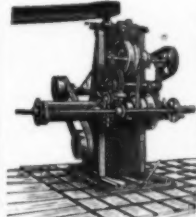
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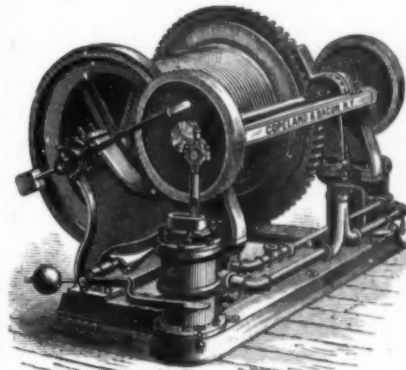
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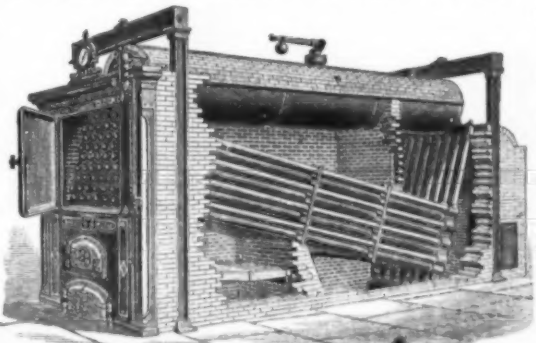
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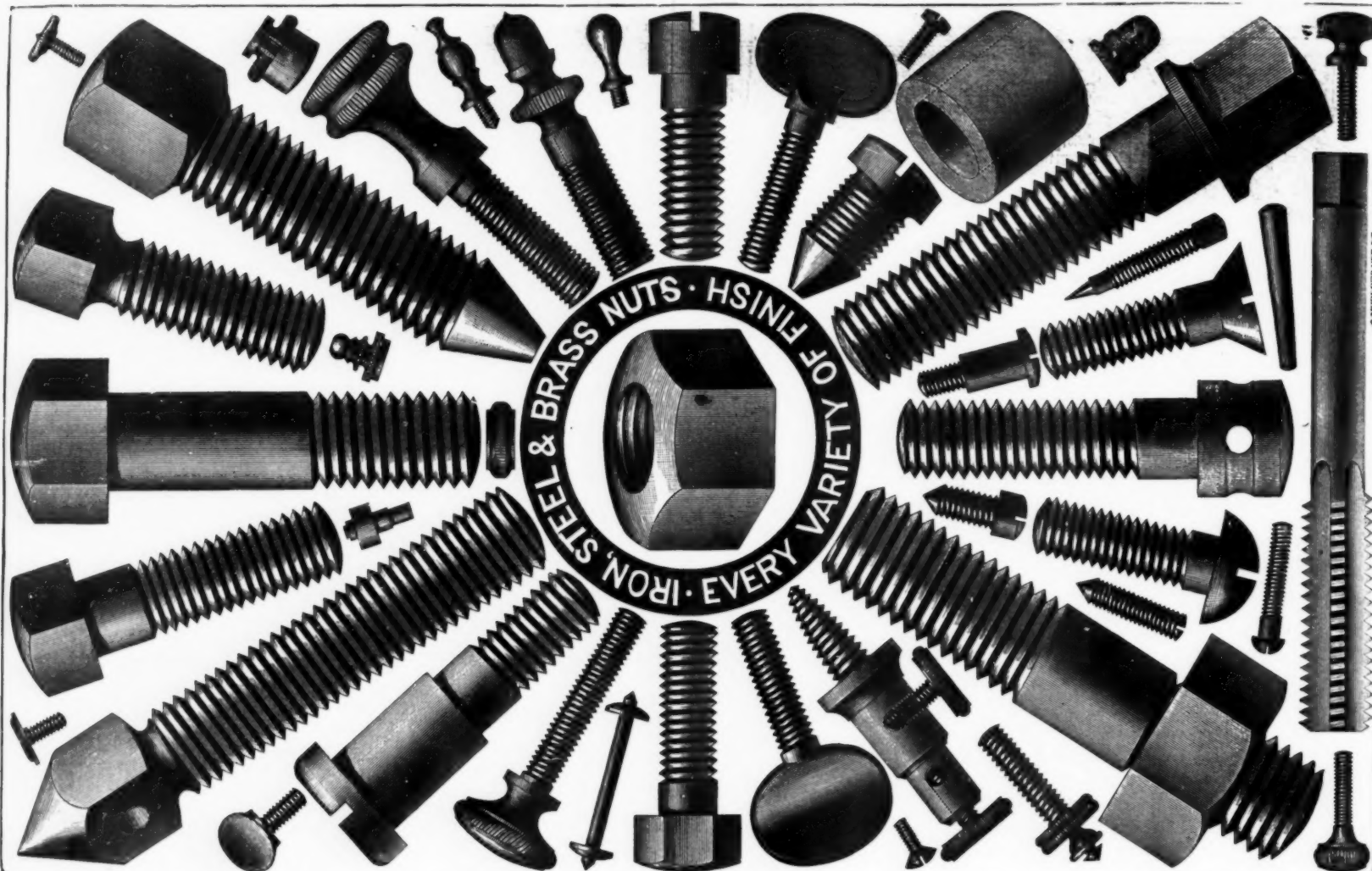
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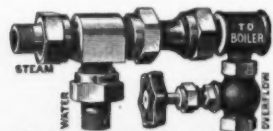
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January 1879.....	
Bailey's.....	
Plane Irons, Butcher's.....	
Plane Irons, Auburn Tool Co.....	
Plane Iron, Ohio Tool Co.....	
Plane Irons, Sandusky Tool Co.....	
PLANES AND NIPPERS.	
Button's Patent.....	
Hall's Pat. Compound Lever Cutting Nippers.....	
No. 2, 3 in. \$1.50; No. 4, 7 in. \$2.10; No. 5, 10 in. \$2.50.....	
Gas Pliers.....	
PLUMBS AND LEVELS.	
Diston's.....	
Stanley R. & L. Co.'s Pat. Adjustable.....	
Stanley R. & L. Co.'s Non-Adjustable.....	
Chapin's Patent Adjustable.....	
Chapin's Non-adjustable.....	
Standard Rule Co.'s New Adjustable.....	
Standard Rule Co.'s Non-Adjustable.....	
Pocket Levels.....	
RAIL.	
Sliding Door, Wrought Brass.....	
Sliding Door, Bronze Wrt. Iron.....	
Sliding Door, Iron, Painted.....	
Barn Door.....	
For 100 feet.....	
B. D. for N. E. Hangers—Small. Med. Large.....	
Per 100 feet.....	
RIVETS.	
Iron and Tinned, new list, Dec. 10, 1881.....	
In bulk, new list, Dec. 10, 1881.....	
Copper Rivets and Burrs.....	
No. 7 8 9.....	
Riv. d. 49c. 50c. 54c. 56c. 58c. 60c. 65c. 70c.....	
RIVET SHEETS.	
Stair, Brass.....	
Stair, Black Walnut.....	
RULES.	
Chapin's.....	
Standard.....	
Stanley.....	
Stevens & Co.....	
Stevens & Co. Miscellaneous.....	
SAD IRONS.	
Self-Heating, Charcoal.....	
Mrs. Pott's Irons.....	
Enterprise Star Irons, new list, July 20, '82.....	
Comb'd Fluter and Sad Iron.....	
Common Sad Irons.....	
SAND PAPER.	
Baeder & Adamson's Flint, 00 to 1/2.....	
Baeder & Adamson's Flint, 2, 2 1/2 & 3.....	
Baeder & Adamson's Flint, Assort'd 4.75 r.m.....	
Baeder & Adamson's Star.....	
Baeder & Adamson's Emery r.m \$6.50 to \$11.50.....	
J. Bartle's Sand, Flint and Emery Paper.....	
SASH CORD.	
Common.....	
Patent.....	
Silver Braided Lake Hemp.....	
Silver Braid, Lake White Cotton.....	
Silver Braided Lake Drab Cotton.....	
Silver Lake Cable Laid, Bengall Unbleached Hemp, 17 cts.....	
Russian Hemp, 10 cts.....	
Italian Hemp, 34 cts.....	
SASH WEIGHTS.	
Solid Eyes, in 500-lb. lots and over.....	
SAUSAGE STUFFERS OR FILLERS.	
Miles.....	
Perry.....	

Enterprise Mfg. Co.....	dis 25 %
Monarch.....	dis 40 %
SAWS.	
Boynton's Lightning Cross Cuts, new list.....	dis 40 %
Boynton's Circular and Mill.....	dis 40 %
Boynton's Ice.....	dis 25 %
Boynton's Lightning Hand, Panel and Rip.....	dis 25 %
Diston's Circular.....	dis 40 %
Diston's Mill.....	dis 40 %
Diston's Cross Cut, Rip, &c.....	dis 40 %
Diston's Hand, Panel, Rip, &c.....	dis 40 %
Hubbard, Bakewell & Co. Circular Saws.....	dis 40 %
Hubbard, Bakewell & Co. Cross Cut.....	dis 40 %
Hubbard, Bakewell & Co. One-Man's, X Cut.....	dis 40 %
Hubbard, Bakewell & Co. Mill Saws.....	dis 40 %
Peace Circular and Mill.....	dis 40 %
Peace Hand, Panel and Rip.....	dis 25 %
Peace Cross Cuts.....	dis 35 %
Peace Band Saws, all widths.....	dis 35 %
Webster Cross Cut, with handles.....	dis 25 & 10 %
Griffin's Hack Saws and Blades.....	dis 30 %
SAW FRAMES.	
White.....	dis 10 %
Saw Rods.....	dis 10 %
SAW SETS.	
Stillman's Genuine.....	dis 10 %
Stillman's Imitation.....	dis 10 %
Common Lever.....	dis 10 %
Leach's.....	dis 15 %
Hammer, Hotchkiss.....	dis 15 %
Aiken's Genuine.....	dis 10 %
Aiken's Imitation.....	dis 10 %
Diston's.....	dis 20 %
Morrill's.....	dis 20 %
SCALERS.	
Hatch, Counter, No. 171.....	dis 37 % & 10 %
Hatch, Tea, No. 161.....	dis 37 % & 10 %
Union Platform, Keystone.....	dis 45 %
Chicago Scale Co.....	dis 20 %
Forsyth Scale Co.....	dis 45 %
Hove's.....	dis 20 %
Chadillon's Grocers.....	dis 40 %
Chadillon's Eureka.....	dis 25 %
Family Universal.....	dis 30 %
Family Favorite.....	dis 30 %
Family Turnbull's.....	dis 30 %
Scale Beams, List of Jan. 12, 1882.....	dis 50 %
SCRAPERS.	
Adjust. Box Scraper (S. R. & L. Co.) \$6.50, dis 20 & 10 %	
Box, 1 Handle.....	dis 10 %
Box, 2 Handle.....	dis 10 %
Foot.....	dis 45 & 10 %
Ship, common.....	dis 20 %
Wilson Mfg. Co.....	dis 20 %
SCREW DRIVERS.	
Douglas Mfg. Co.....	dis 20 & 10 %
Disston's.....	dis 40 %
Cowles Mfg. Co.....	dis 50 %
Stanley Rule & Level Co's. Var. Hds.....	dis 50 & 10 %
Stanley Rule & Level Co's. Black Hds.....	dis 40 & 10 %
Ratchet.....	dis 33 %
Clark's Patent.....	dis 25 %
Shepardson.....	dis 25 %
SCREWS.	
Flat Head Iron, A. S. Co's list, Jan. 1, '85, dis 20 & 10 %	
Round Head Iron.....	dis 25 & 10 %
Flat Head Brass.....	dis 25 & 10 %
Round Head Brass.....	dis 25 %
Flat Head Blue, add 2 1/2 % to net of invoice.....	
Brass and Silver Capped.....	dis 70 %
Japanned, list of Plain Screws.....	dis 70 %
Coach, Patent Gimlet Point.....	dis 75 %
Coach, Common or Lag.....	dis 60 & 10 %
Bed.....	dis 10 %
Machine, Flat Head, Iron.....	dis 55 %
Machine, Round Head, Iron.....	dis 50 %
Bench, Iron.....	dis 50 & 10 %
Bench, Wood, Beach.....	dis 30 %
Bench, Wood, Hickory.....	dis 30 %
Hand, Wood.....	dis 30 %
Hand Rail, Humason, Beckley & Co.....	dis 40 & 10 %
Hand Rail, Am. Screw Co., list Jan. 1, '81.....	dis 70 %
Jack (Wilson's).....	dis 25 %
SCREEN FRAMES AND FIXTURES.	
Standard Window Screens No. 1, per doz \$4; No. 2, \$5.....	
Door " " No. 5, \$15; dis 40 & 10 %.....	
Window Corner Irons, No. 3, doz. st's, \$2.....	
Door " " No. 6, " " \$3.....	
Door Latches, per dozen, \$3.60.....	
Porter's Patent Window and Door Screen Frames.....	
PER DOZ. SETS.	
No. 20.....	dis 37 %
No. 21.....	dis 37 %
No. 22.....	dis 37 %
No. 23.....	dis 37 %
No. 24.....	dis 37 %
Porter's Corner.....	dis 37 %
No. 0. Corners and Sticks complete for a three-foot window, per doz sets.....	
No. 1. Set for Window, per doz sets.....	
No. 1 1/2. " " per doz sets, Bronze, \$2.40; Nickel, \$5.62.....	
No. 4. " " per doz sets, Bronze, \$3.25; Nickel, \$7.50.....	
No. 1/2. " " per doz sets, Bronze, \$4.00; Nickel, \$8.00.....	
No. 1/4. " " per doz sets, Bronze, \$1.20; Nickel, \$3.00.....	
No. 4 1/2. " " per doz sets, Bronze, \$2.00; Nickel, \$4.00.....	
No. 2 1/2. " " per doz sets, Bronze, \$6.75; Nickel, \$15.00.....	
No. 3. " " per doz sets, Bronze, \$12.00; Nickel, \$24.00.....	
SHEARS AND SCISSORS.	
American (Cast) Iron.....	dis 20 & 10 %
Pruning.....	dis 20 %
Barnard's Lamp Trimmers.....	dis 40 %
Tinners'.....	dis 15 %
Massachusetts.....	dis 80 & 10 %
Seymour's.....	dis 60 & 10 %
Jersey Shears.....	dis 80 %
J. Wiss & Son, Nickle, 50 & 55; Japanned, 60 & 65 %	
SHEAVES.	
Sliding Door, M. W. & Co., List.....	dis 45 & 2 %
Sliding Door, R. & E. list.....	dis 60 & 10 %
Sliding Door, Patent Roller.....	dis 60 & 10 %
Sliding Door, Pt. Roller, Hatfield's.....	dis 60 & 10 %
Sliding Door, Russell's Anti-Friction.....	dis 60 & 10 %
SHOVELS AND SPADES.	
Ames, New List, July 1, 1882.....	dis 15 %
Griffiths.....	dis 50 & 5 %
Remington's (Lowman's Patent).....	dis 30 %
Rowland's.....	dis 60 %
Kimball's.....	dis 35 %
Lippincott, new list.....	dis 20 %
Hussy, Bins & Co.....	dis 15 %
SPOKE TRIMMERS.	
Bonney's.....	dis 10 %
Stearns.....	dis 20 %
Ives'.....	dis 20 %
Douglass'.....	dis 15 %
SILVER PLATED WARE.	
Wm. Rogers Manf. Co.....	dis 50, 55 & 5 %
Holmes, Booth & Hayden.....	dis 40 & 10 %
Brown Bros.....	dis 40 & 10 %
Wallace's Steel Silver Plated.....	dis 33 % & 10 %
Rogers Bros 1847.....	dis 50 %
C. Rogers & Bro.....	dis 40, 10 & 5 %

SILVER PLATED HOLLOW WARE.	
Wm. Rogers Manf. Co.....	dis 40, 15 & 5 %
Meriden Britannia Co.....	dis 33 %
SPOONS.	
Britannia.....	dis 60 & 10 %
Tinned, Iron, Table and Tea.....	dis 65 %
Tinned Iron Basting.....	dis 65 %
German Silver.....	dis 40 %
STONE.	
Hindustan No. 1, 35; Axe, 8c.....	net
Sand Stone.....	dis 33 % & 10 %
Washita Stone.....	No. 1, 1 lb., 16c. net
Washita Stone, Slips.....	No. 1, 1 lb., 45c. net
Arkansas.....	\$1.50 per lb. net
SQUARES.	
Steel.....	dis 50 %; full cases, dis 50 & 10 %
Iron.....	dis 50 %; full cases, dis 50 & 10 %
Nickel Plated.....	add \$2.50 per doz net.
Try Square and T Bevels.....	dis 50 & 10 %
Disston's Try Square and T Bevels.....	dis 40 %
TACKS, BRADS, &c.	
New List, Sept. 1, 1882.	
Tinned Swedes Tacks.....	dis 50 %
Tinned American Tacks.....	dis 50 %
Swedes Tacks, all kinds.....	dis 50 %
American Cut Tacks.....	dis 50 %
Copper Tacks and Nails.....	dis 50 %
Hungarian Nails.....	dis 35 %
Gimp and Lace Tacks.....	dis 30 %
Finishing Nails.....	dis 30 %
Trunk and Clout Nails.....	dis 30 %
Common and Patent Brads.....	dis 30 %
Basket Nails.....	dis 30 %
Brush Tacks.....	dis 20 %
Leathered Carpet Tacks.....	dis 20 %
Cigar Box Nails.....	dis 30 %
Chair Nails.....	dis 30 %
Double-pointed Tacks.....	dis 70 & 10 %
TAP BORERS.	
Common and Ring.....	dis 20 %
Ives' Tap Borer.....	dis 15 & 10 %
Enterprise Mfg. Co.....	dis 25 %
TOBACCO CUTTERS.	
Enterprise Mfg. Co (Champion).....	dis 25 %
Wood Bottom.....	dis 40 & 10 %
All Iron.....	dis 40 & 10 %
Wilson's.....	dis 35 %
THERMOMETERS.	
Tin Case.....	dis 75 & 10 %
Storm Glasses.....	\$3.25 per doz.
TOE CALKS.	
Winsted.....	dis 10 %
TRAPS.	
Game, Newhouse.....	dis 35 %
Game, Oneida Pattern.....	dis 60 & 10 %
Game, Blake's Patent.....	dis 40 & 10 %
Mouse, Wood, Choker.....	dis 10 %
Mouse, Round Wire.....	dis 10 %
Mouse Cage, Wire.....	dis 10 %
Mouse, Catch-em-alive.....	dis 10 %
Cyclon Mouse.....	dis 75 cts.
Ideal Mouse.....	dis 10 %
Rat, "Decoy".....	dis 10 %
Delusion Mouse, per doz.....	\$1.50
TROWELS.	
Lothrop's Brick and Plastering.....	dis 25 %
Reed's Brick and Plastering.....	dis 15 %
Disston's Brick and Plastering.....	dis 20 %
Clement & Maynard's.....	dis 20 %
Worrall's Brick.....	dis 20 %
Brades & Walby's.....	dis 20 %
Garden.....	dis 55 %
TRUCKS (WAREHOUSE, &c.)	
Handy Truck.....	\$2.50 net
Penfield Block Co.' list, 1882.....	dis 15 %
Peerless, with Cogs, No. 3.....	\$4.00
Peerless, with Cogs, No. 4.....	\$6.00
Eureka, No. 2.....	dis 42.00
VISES.	
Solid Box—Wilson's.....	dis 50 %
" Trenton.....	dis 45 %
" Iron City Tool Works.....	dis 50 %
Bench—Wilson's.....	dis 45 %
" Trenton.....	dis 25 %
" Parker's.....	dis 20 %
" Prentiss.....	dis 25 %
" Bonney's.....	dis 35 %
Well Wheels.....	dis 60 & 10 %

WIRE.	
Brass and Copper, list of Jan. 17, 1884.....	dis 15 %
Bright and Annealed.....	dis 15 %
Bright and Annealed.....	dis 15 %
Bright and Annealed.....	dis 15 %
Coppered.....	dis 15 %
Galvanized, Nos. 0 to 18.....	Market list dis 40 %
Tinned, Nos. 0 to 18.....	dis 60 %
Tinned Broom Wire, Nos. 18 to 25.....	dis 60 %
Annealed Fence, Nos. 8 & 9.....	dis 35 %
Annealed Grape, Nos. 10 to 14.....	dis 50 & 10 %
Fence Staples, Galvanized.....	dis 70 %
Japanned Barb Fence.....	dis 60 %
Galvanized Barbed Fence.....	dis 60 %
Buck Thorn Galvanized.....	dis 60 %
Picture Wire.....	dis 40 %
Clothes Line Wire, Galvanized.....	\$2.75 per doz
Wire Cloth, green, drab and black.....	\$2.75 per sq ft 2 c net
WRINGERS.	
American Adjustable.....	dis 45 %
Baxter's Adjustable "S," list Jan., 1880.....	dis 20 & 5 %
Cox's Diagonal.....	dis 20 & 5 %
Cox's Genuine.....	dis 60 %
Cox's "Mechanics".....	dis 60 & 10 %
Cox's Pattern, Malleable.....	dis 75 %
Cox's Pattern, Wrought.....	dis 60 & 10 %
Girard Standard.....	dis 60 & 10 %
Girard Agl.....	dis 60 & 10 %
Always Ready.....	\$9.00—25 %
MISCELLANEOUS.	
"Diamond" Vegetable Grater.....	\$5.00 per doz., 10 %
Rotary Knife Potato Parer.....	\$18.00 per doz., net
Metallic Shingles.....	\$5.50 and \$6.50 per square.
Hopper Cherry Seeders.....	\$5.00 per doz, net

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Send for circulars: Gratis.
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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

A Fine Hotel.

The Anniston Inn Thrown Open to the Public.

The Anniston Inn has to-day been thrown open to the public, complete in every detail, nothing wanting, nothing lacking, nothing left undone, a perfect marvel of finish, painstaking work of convenience, of comfort, luxury and taste; furnished as has not been surpassed in this or any other country.

The situation itself is everything that could be desired, commanding the most beautiful views in every direction of the finest valley and mountain scenery in the South. The grounds have been laid off on every side and graded and sodded, shrubbery planted, walks graveled and rolled, drives paved, and the whole work made permanent and secure by the most thorough system of paving and draining. The architecture of the Inn is Queen Anne. The first story is cut stone, the second of pressed brick and the third, fourth and fifth of heavy framed work, covered with California red wood shingles and Georgia slate, the wide windows, heavy window frames, gables and large bay windows, give a grand and picturesque effect. The interior from the first floor to the top is one beautiful piece of cabinet work of oak, selected Southern pine, California redwood and walnut. The ceilings, floor, beams, wainscoting and window, door casings, hall, offices, ladies' and gentlemen's parlor, the sitting and dining room have been finished and highly polished, bringing out the natural grain of the wood as perfectly as the finest finished furniture. The heavy girders supporting the ceiling dining room, ladies' parlor and rotunda have been encased in oak beautifully paneled and polished. The grand staircase is a masterpiece of workmanship and art; built of massive polished oak and flanked on every floor with beautiful stained glass windows. The ladies' chambers are large, with wide windows, all opening so each window gives a view of the grand scenery beyond. Every room from basement to the top floor, as well as the broad porch that extends for nearly a quarter of a mile around the building, is lighted by the Brush incandescent light, the whole arranged either for gas or electricity. The building is heated throughout by hot water conveyed through pipes and register in the rooms and halls, while the baths and water closets are supplied on every floor with abundance of clean water from the mountain water works, and the entire building protected in case of fire by hose on each floor, water always on at a high pressure from the mountain reservoir. The elevators are run by hydraulic pressure from the same source.

The ladies' parlor is carpeted with heavy Wilton carpet, the windows draped with heavy Turcoman old gold and velvet curtains suspended by brass poles and brackets. The furniture is upholstered with blue crimson silk plush; the tables are ebony beautifully inlaid; the chandeliers are yellow brass with center piece of beaten copper ornamented with silver. The fire places in parlor, gentlemen's sitting room and dining room are built of "terra cotta," are very wide and old fashioned, extending from floor to ceiling, and are ornamented with heavy brass and iron and finders. The upper sash of the windows of first floor, as well as the doors to ladies' parlor and main hall, are stained glass; the windows and archways all draped with rich Turcoman curtains. The furniture of office and gentlemen's parlor, cherry, beautifully carved; the large arm and smokers chairs, cherry, cushioned with olive green leather; the writing table, a desk of cherry elegantly finished. The dining room is a gem, a thing of beauty, well lighted with broad, square and bay windows on every side, the upper sash with small stained glass, being stationary; the lower being doors of large glass swinging on hinges opening outward—all the windows being hung with heavy rich

Turcoman curtains, the floor carpeted with heavy Hartford body Brussels carpets, as are the halls, office, gentlemen's parlor and smoking room, stairway and every chamber in the Inn. The chambers are large and splendidly ventilated, windows of double width, protected by linen window shades on spring rollers, next with folding inside blinds. The windows of every chamber are draped with costly Madras curtains. Many of the suites of rooms have bay windows and broad tile fire places, with massive paneled mantels of polished yellow pine, and bevelled plate-glass mirrors. The furniture of chambers is highly polished cherry and ash, each bed furnished with a spring and hair mattress, the pillows and bolsters of feathers of best quality. The blankets, quilts and linens are of the finest quality, and in keeping with the surroundings.

The table linen is of the choicest quality, the silver plain but massive, the china and glass are in keeping with the whole. Two hundred guests can be comfortably seated. The children's and servants' dining rooms are fitted up in the same manner as the main dining room. The Inn has two large refrigerators on the ground floor capable of holding a car-load of meat and fruit, and one large refrigerator for general storage and a smaller one on kitchen floor for daily use. On the first floor of the building known as the annex, are the steam laundry, ironing room, bakery and boiler room, with two forty horse-power locomotive boilers to heat the building and run the electric engines. On the second floor is the kitchen, serving room, china and silver room and pantry; all fitted in the most thorough manner. The two floors above are the servants' quarters, being a small inn of itself, the rooms being nicely furnished and carpeted, with bath-rooms and closets on each floor.

The whole is under the management of Mr. H. Hardell, of Philadelphia. Skilled cooks, bakers and pastry makers and first-class waiters.

The best of everything will be provided. It will be properly cooked and well served. The Inn is the most quiet, the most elegant and homelike in the country, in the mountains a thousand feet above the gulf, with pure air, health-restoring water. It is within easy distance of New Orleans, Mobile, Montgomery, Selma, Atlanta, Macon, Columbus, Rome, Chattanooga and Knoxville. It will be the great summer and winter resort in Alabama, as well as a house of entertainment to the traveling public. Here the weary traveler will receive a right and royal welcome, and can truly say, I will take mine ease in mine inn, and the impatient stranger attracted to our country will linger and enjoy the beauties of our land and climate.—*Atlanta Constitution*.

The New Orleans Exposition.

EXHIBIT OF THE RAND DRILL COMPANY.

One of the most noteworthy exhibits in the machinery department of the New Orleans Exposition is made by the Rand Drill Company, of No. 23 Park Place, New York, containing as it does the best specimens of all of the most important tools now in daily use in mining, tunneling and general rock excavation. It is the center of attraction for mining men from all parts of the world, and miners from Chili elbow those from Lake Superior in observing the latest developments in the appliances for expediting their work. To the lay public the exhibit is likewise of peculiar interest. The use of machinery in executing work formerly done only by hand is always of interest, and the spectacle of drilling granite by steam is a never-failing centre of attraction. A rock drill is essentially a special form of steam engine—albeit, frequently driven by compressed air—and looked at in this light may be regarded as perhaps the most highly specialized development of the mechanism for which we are indebted to the genius of James Watt.

The air compressors exhibited are for the purpose of supplying motive power for the drilling machines when worked under ground in mines or tunnels, and are of two patterns—the self-contained compact direct acting type and the more accessible detached cylinder heavy fly-wheel type. The latter possesses peculiar interest to New Yorkers from the fact that it is the machine that has been supplied for driving most of the work on the new Croton Aqueduct.

The rock drills shown in the engraving belong to the class known as "striking drills," in which the drill steel is an extension of the piston rod. The cylinder slides in a guide or shell, mounted upon a tripod formed with a universal joint, and is fed towards the rock as fast as the steel penetrates it. A positive motion valve insures certain operation when steam or air is admitted, without depending upon close fits or clean parts; it allows a variation between the up and down stroke, thereby saving steam and increasing the working capacity of the drill. The valve is moved in the same direction as the piston. The rotating bar is made full size where it enters the ratchet, and it is claimed that it never breaks. The piston rod and chuck are made small and solid outside of the cylinder, whereby greater lifting power is obtained. The throttle is placed on the steam chest, where it cannot be lost or injured in handling. The coupling has no gaskets that can drop out, and provides for instantaneous connection of the hose without the use of a wrench or spanner.

The length of stroke of a rock drill is uncertain, since as the hole progresses in depth the cylinder must be correspondingly fed forward, but to effect this feed perfect regularity is impossible. In these drills provision has been made for this irregular feed and length of stroke, but nevertheless when full strokes are made the valve does not move nor is steam admitted below the piston until the actual delivery of the blow. The result is that while in cushioned drills the blow struck is that due to the difference between the action of the driving steam and of the cushion steam, in this drill the blow is that due to the full, unobstructed action of the driving steam.

In the adjustable tripod both front legs are so arranged that they can be set at any angle or placed in any desired position. The movement of the legs is not limited to a small area, but they can be pointed towards the side, front or rear, raised at right angle to the drill rod or pointed straight upwards in an opposite direction to that in which the rock is to be bored. This arrangement is particularly useful in drilling "lifting holes," and where it is desirable to drill a hole close to the side of a cut, or in bench work in mines. In the iron mines of Lake Superior, where many of these drills are at work, the miners are often called upon to commence drill work forty feet or more from the floor of the chamber. A ladder is set up against the side of the mine, the miner climbs to the place to be drilled, lowers a rope, and with the help of his mate pulls the drill up after him. He chips out of the rock a spot large enough for the rear leg and one for one of the front legs of the tripod, the other front leg being tied to the ladder. The hose being connected, four or five holes are drilled in the solid ore, iron bars are placed in the holes, and across the projecting ends of these bars planks are laid and a stage constructed from which drilling and blasting in the regular way are soon carried on.

Two or three of these drills (without the tripod) may be mounted upon arms projecting from shifting sleeves placed upon a swivel-jointed bar which may be held between the walls of a shaft or the floor and ceiling of a gallery. The bar is firmly held, and is not loosened by the jar of the drills while running. The drills can be moved along the bar to any position, and can be worked at any angle. A quarry bar is used to carry drills for channelling, gadding, &c. It can be set at any angle, and with it holes can be drilled true and in line. It has always been the aim of the Rand Drill Company, in all of the appliances made by them,

to design the machines in accordance with both the theory and practice, to employ the best material and so distribute it as to obtain ample strength without unnecessary weight, and to insure economy and effectiveness in operation and great durability.—*New York Graphic*.

An Index of Business Activity.

Notwithstanding the unusual backwardness of the season this year, the exceptionally crowded condition of THE SUN's advertising columns for the past few weeks affords the best possible evidence of a healthy activity in the spring trade of Baltimore, and of a generally prosperous condition of affairs in this city. THE SUN has long been regarded as the most reliable index of the actual condition of business in Baltimore, reflecting as it does all forms of commercial activity and all the varied wants of the community. Taking the last two issues of THE SUN for instance, we find that in Saturday's paper there were 991 separate advertisements, occupying 30½ columns, in addition to 17½ columns of telegraphic news, special correspondence, editorial comment, local intelligence, &c., and in Monday's paper 808 separate advertisements, occupying 30½ columns, besides the current news and other reading matter, which take up the remaining space, 17½ columns. The varied aggregation of advertisements represents the business activity and the actual daily wants of this great community of over 400,000 persons, whom it also informs how and where every need may be supplied. The thoroughly representative character of these advertisements is guaranteed by the fact that not one of them is solicited, but all are voluntarily handed in over the counter at THE SUN office by persons who have learned, in most cases by practical experience, that this is the surest and most effective means of reaching the public. No made-up, bogus, begged, stolen, humbug or fraudulent advertisements are to be found in this exhibit, which represents in every line some actual need or offer straight from the people. THE SUN invites comparison between its compact and carefully classified advertising columns with the expansive displays of the boasted New York dailies, and it will be found, we think, that a better return for the money invested is given by no other newspaper in the country. All classes of advertisers seek its columns, which are a faithful reflex of the social, religious, business, manufacturing, industrial, political, and all the other interests and occupations of the community. But while a great advertising medium, THE SUN spares no pains nor expense to advance its standard of journalistic achievement, to carry forward by every possible means the policy of constant improvement and vigilant enterprise which originally won it the cordial good-will and favor of the people, and to supply its readers with the fullest and freshest news from every quarter of the globe. In addition to the Associated Press dispatches, which it receives in common with many other newspapers, but which represents a comparatively small portion of its news facilities, a vast amount of intelligence is published specially in THE SUN, which makes it different from and immeasurably superior to newspapers dependent solely upon the few features common to all. New features are constantly being added to THE SUN's columns, and its special correspondence and telegraphic dispatches from Washington, Philadelphia, New York, Boston and other important centers, from the counties of Maryland, from various points in Pennsylvania, Delaware, Virginia, West Virginia and elsewhere, as well as its carefully collated local intelligence and judicious editorial treatment of current events, have received so many hearty commendations from old friends and subscribers recently that we trust we shall be pardoned the expression of a legitimate and honorable pride in the continued and constantly increasing success of THE SUN in the line marked out by its founder.—*The Baltimore Sun*, April 14, 1885.

BRASS.

ROLL AND SHEET BRASS.

Brown & Sharpe's Gauge the Standard.

New List, Jan. 17, 1884.

Dis 95 ¢

COMMON HIGH BRASS.									
Wider than	2	10	12	14	16	18	20		
and including.	10	12	14	16	18	20			
To No. 20, inclusive.	.21	.22	.23	.25	.27	.29			
Nos. 21, 22, 23 and 24.	.22	.23	.24	.26	.28	.30			
Nos. 25 and 26.	.22½	.23½	.24½	.27	.29	.31			
Nos. 27 and 28.	.23	.24	.25	.28	.30	.32			
Add 9 cts. ¢ lb. for sheets cut to particular widths and lengths.									
Add ½ c. ¢ lb. additional on each number thinner than Nos. 28 to 38 inclusive.									
Brass thinner than No. 38 is Platers' Brass.									
at.....									
Printers' rules.....									
Printers' Sheets and Plates cut to particular sizes and lengths to No. 20, inclusive.....									
Brazing, Spinning and Spring Brass, one cent more than common High Brass.									
Low Brass four cts. ¢ lb. more than common High Brass.									
Gilding, Oreide and Bronze seven cts. ¢ lb. more than common High Brass.									

SLITTING METAL.

Add to list as follows:

Over ½ in. to 2 in., inclusive, Nos. 12 to 20, inclusive.....	¼c
Over ½ in. to ½ in., inclusive, Nos. 12 to 20, inclusive.....	1
½ in. and narrower, not less than.....	4
Over ½ in. to 2 in., inclusive, Nos. 21 to 28, inclusive.....	1
Over ½ in. to ½ in., inclusive, Nos. 21 to 28, inclusive.....	2
½ in. and narrower, Nos. 21 to 28, inclusive, not less than.....	6
Over ½ in. to 2 in., inclusive, Nos. 29 to 32, inclusive.....	1½
Over ½ in. to ½ in., inclusive, Nos. 29 to 32, inclusive.....	3
½ in. and narrower, Nos. 29 to 32, inclusive, not less than.....	12
Over ½ in. to 2 in., inclusive, No. 33 and thinner.....	3
Over ½ in. to ½ in., inclusive, No. 33 and thinner.....	6
½ in. and narrower, No. 33 and thinner, not less than.....	18
Slit Metal cut to particular lengths, ¢ lb. additional.....	5
PLATERS' OR GOLD METAL.	
In bars.....	40c
In ingots.....	43c
In ingots, planed or polished.....	46c.

WIRE IN COILS.

Old English gauge the Standard.

Common High Brass. Low Brass. Gilding, Bronze and Copper.

	Brass.	Brass.	Copper.
All Nos. to No. 16, inclusive.....	22	26	30
Nos. 17 and 18.....	23	27	31
" 19 and 20.....	24	28	32
" 21.....	25	29	33
" 22.....	26	30	34
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SIDING, CEILING,
ARCHES AND LATH.
CINCINNATI
CORRUGATING CO.
CINCINNATI, O.
SEND FOR ILLUSTRATED CATALOGUE.

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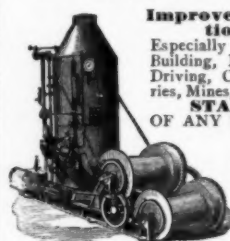
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OF ANY SIZE FOR MINES.

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Established 1867.
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MANUFACTURERS OF
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LATHES,
Iron Planers,
Radial, Upright, Suspension, Multiple and Lever
DRILLS,
and a variety of other
MACHINISTS' TOOLS
Patent
Double Chain Screw Pulley Blocks.
Unrivalled for Durability, Safety and Power.
Patent Double Screw Quick-Lift Hoists,
with brake for quick and easy lowering.
Circulars furnished.
Works and Office, Cor. N. 15th and Penna. Ave., Philadelphia, Pa.
Represented by J. O. MAYNARD, 12 Cortlandt St., N. Y.; C. E. KIMBALL, 93 Oliver St., Boston; W. H. RICEY, 116 Main St., Cincinnati.

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THE POPULAR STEEDS OF TODAY
COLUMBIA TRICYCLES
FOR LADIES AND GENTLEMEN
ILLUSTRATED CATALOGUE SENT FREE.
THE POPE MFG. CO.
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—THE—
Sigourney Drill.
Perfect, Sensitive and Strong.
Interchangeable, and has a Capacity unequalled.
MADE BY
The Sigourney Tool Co.
MANUFACTURERS OF
Special Machinery and Tools
OF THE FINEST QUALITY.
HARTFORD, - - CONN.
Baltimore Agents, MORTON, REED & Co., 58 German Street.
Send for Circular.

Steam Boilers

JOHN T. COLEMAN & SONS,
Steam Boiler Works,

Cor. Holliday and Pleasant Sts., Baltimore.

Manufacturers of all kinds of Steam and Bath Boilers, Smoke Stacks, Water Tanks, Lard Kettles, &c.
Particular attention given to repairs.

ENGRAVING DIRECT FROM PHOTOGRAPH.
NO DRAWING REQUIRED.
NO HAND WORK NECESSARY.
SEND CHEAP, ARTISTIC.
FOR PARTICULARS CROSSCUP & WEST ENG. CO.
702 CHESTNUT ST. PHILA. PA.

Sherman Mfg. Co. JACKSON, TENN.



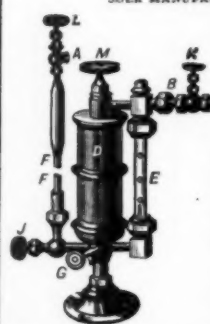
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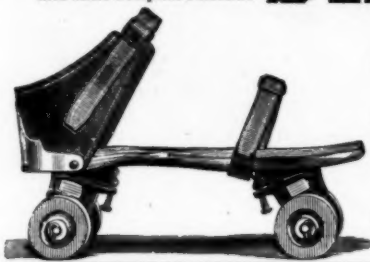
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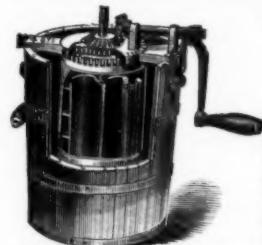
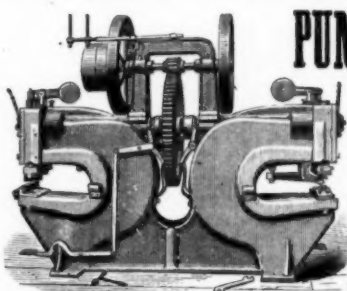
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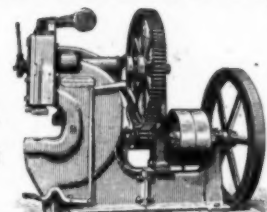
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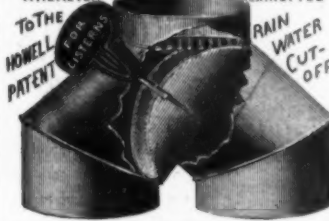
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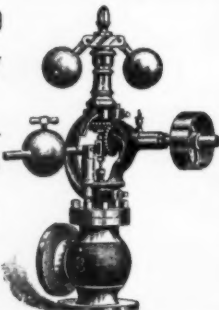
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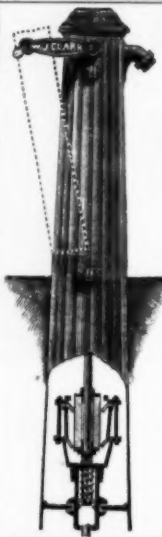
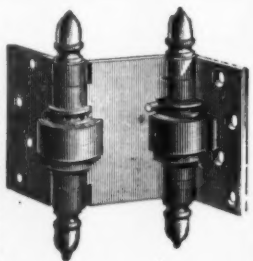
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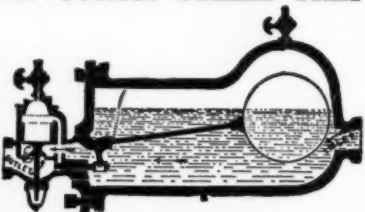
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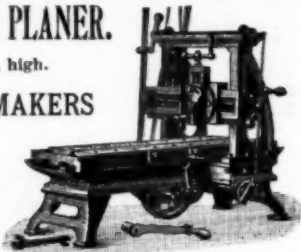
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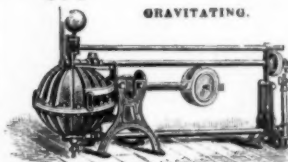
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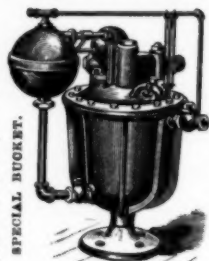


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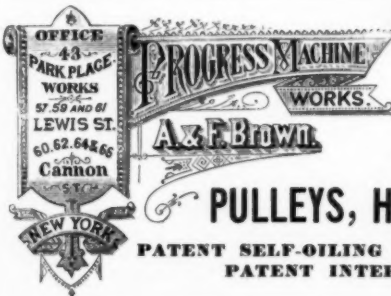


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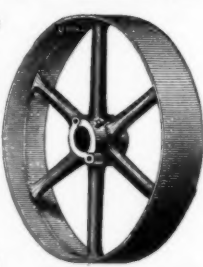
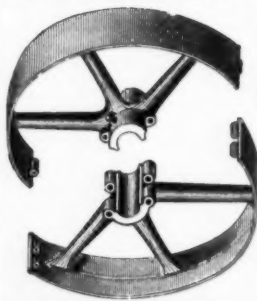
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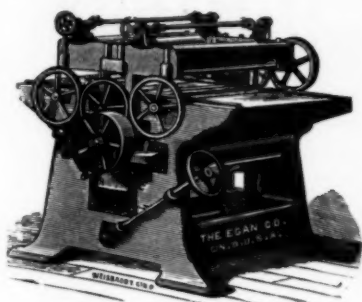
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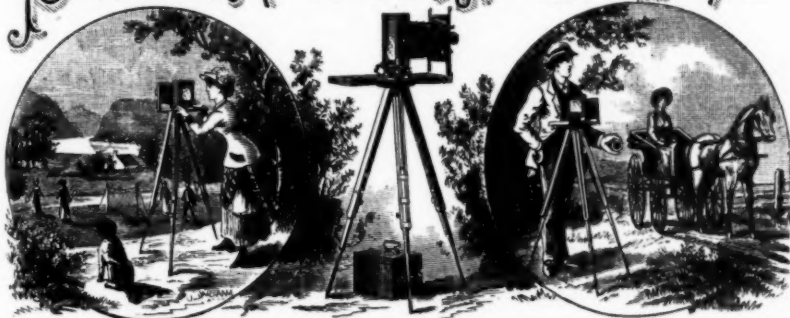
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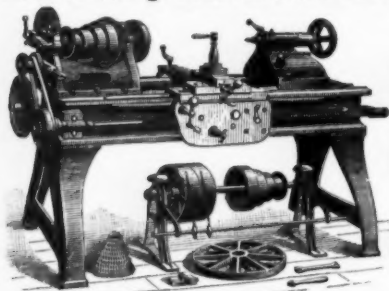
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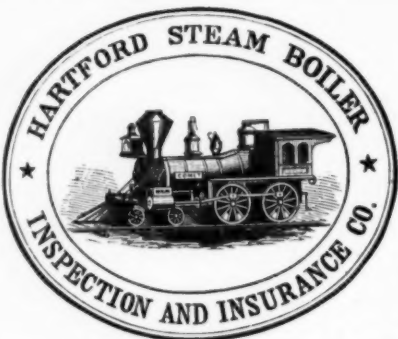
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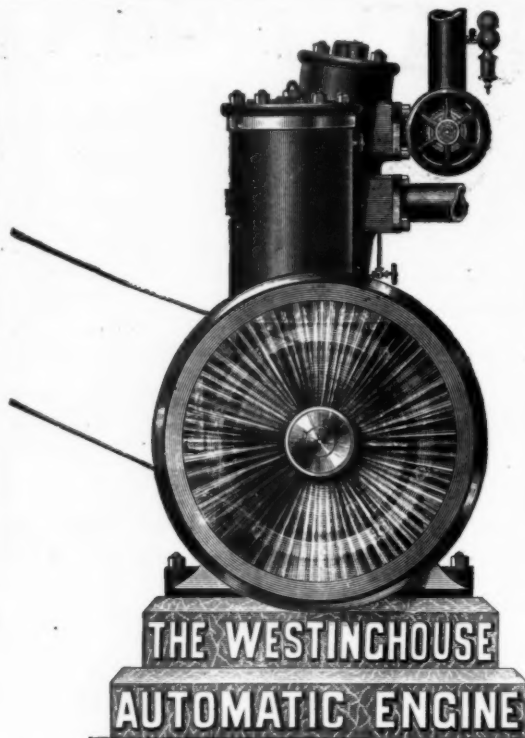
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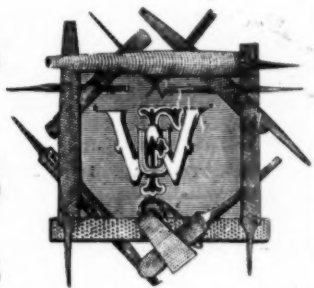
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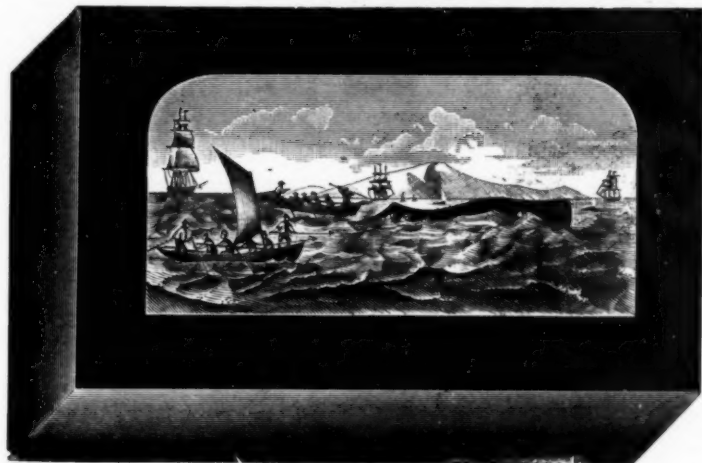
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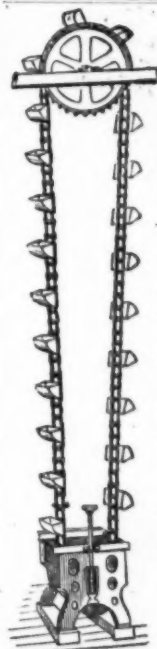
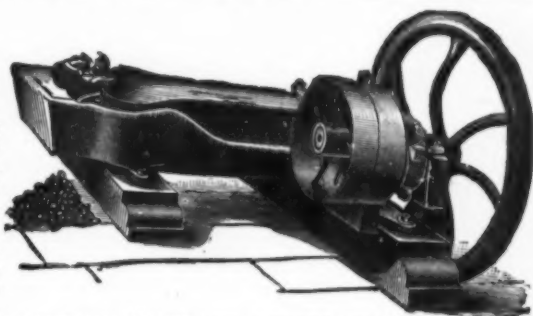
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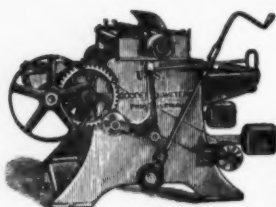
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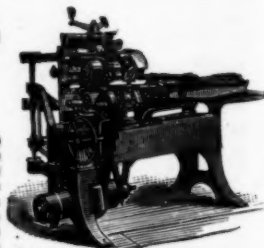
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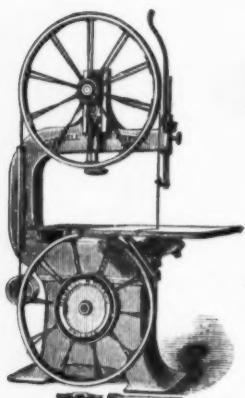


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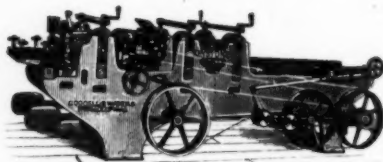
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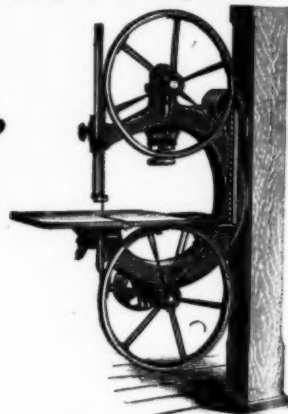
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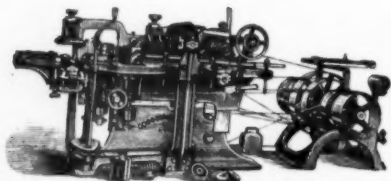


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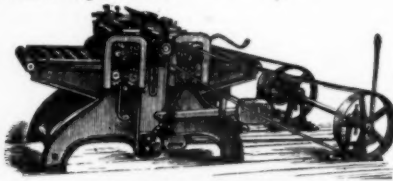
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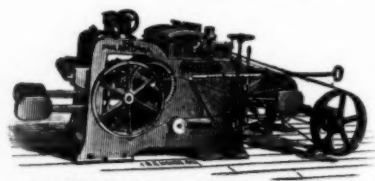
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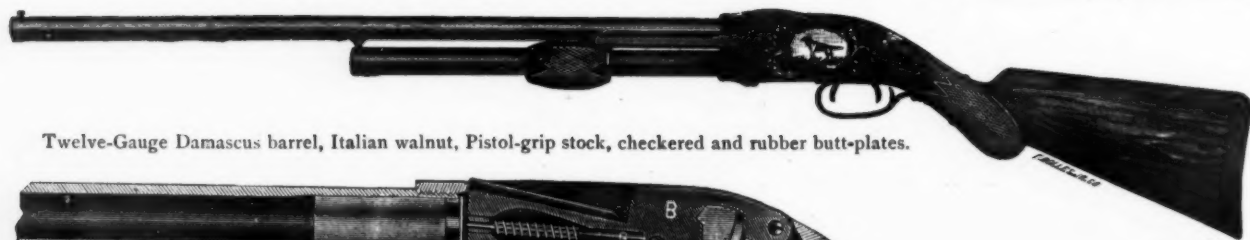
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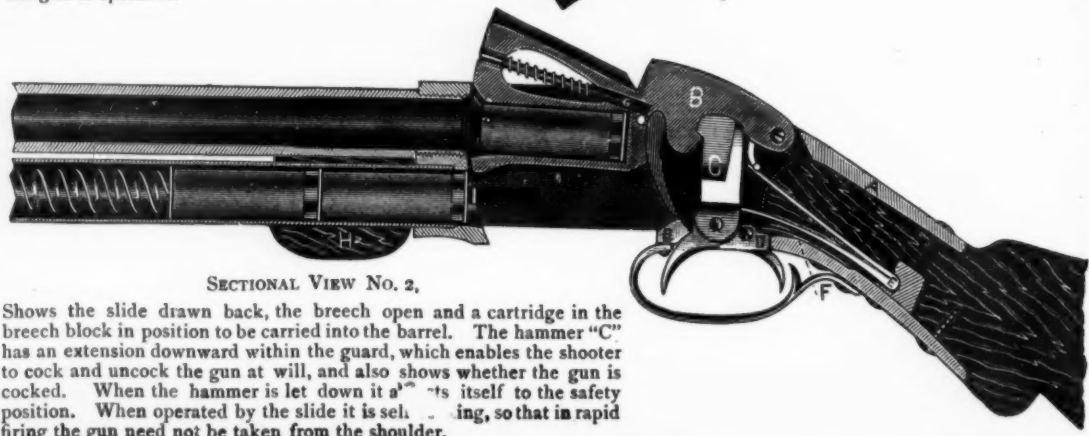


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SECTIONAL VIEW NO. 1,

Shows the parts of the gun in readiness for firing. "A" is the frame, "B" the breech block, "C" the hammer, "D" the trigger, "E" the main spring, "F" the sear spring, "G" the firing pin, "H" the slide by which the gun is operated.



SECTIONAL VIEW NO. 2,

Shows the slide drawn back, the breech open and a cartridge in the breech block in position to be carried into the barrel. The hammer "C" has an extension downward within the guard, which enables the shooter to cock and uncock the gun at will, and also shows whether the gun is cocked. When the hammer is let down it sets itself to the safety position. When operated by the slide it is self-loading, so that in rapid firing the gun need not be taken from the shoulder.

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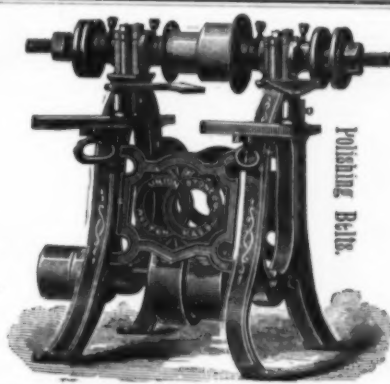
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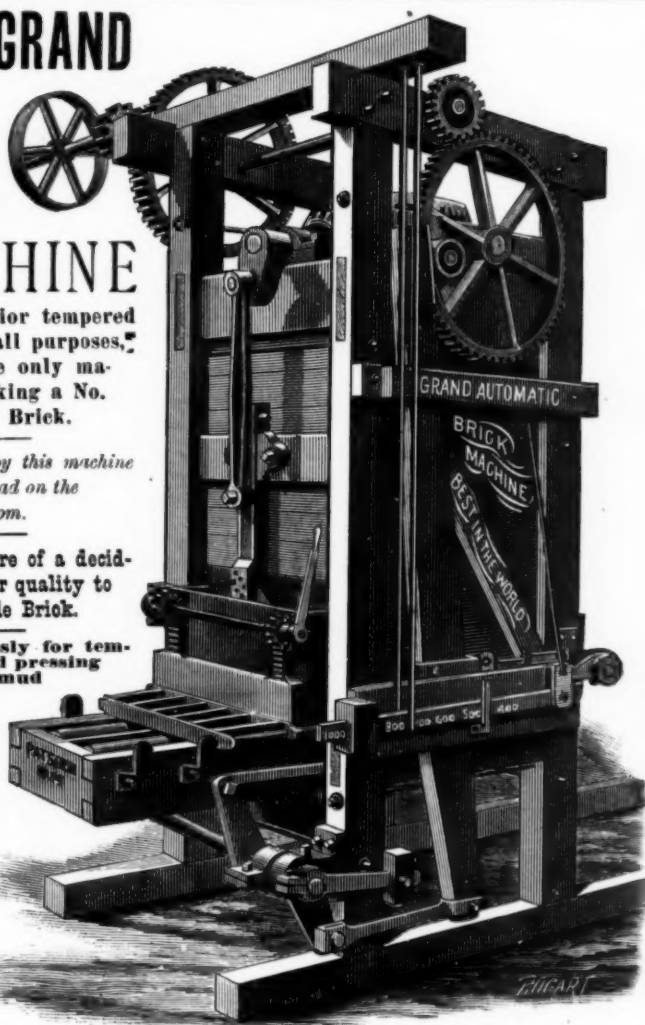
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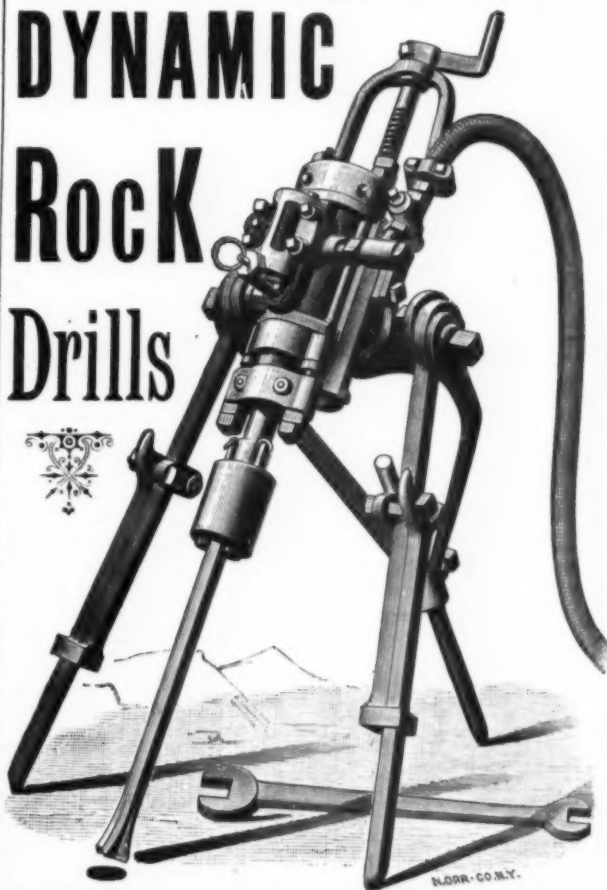
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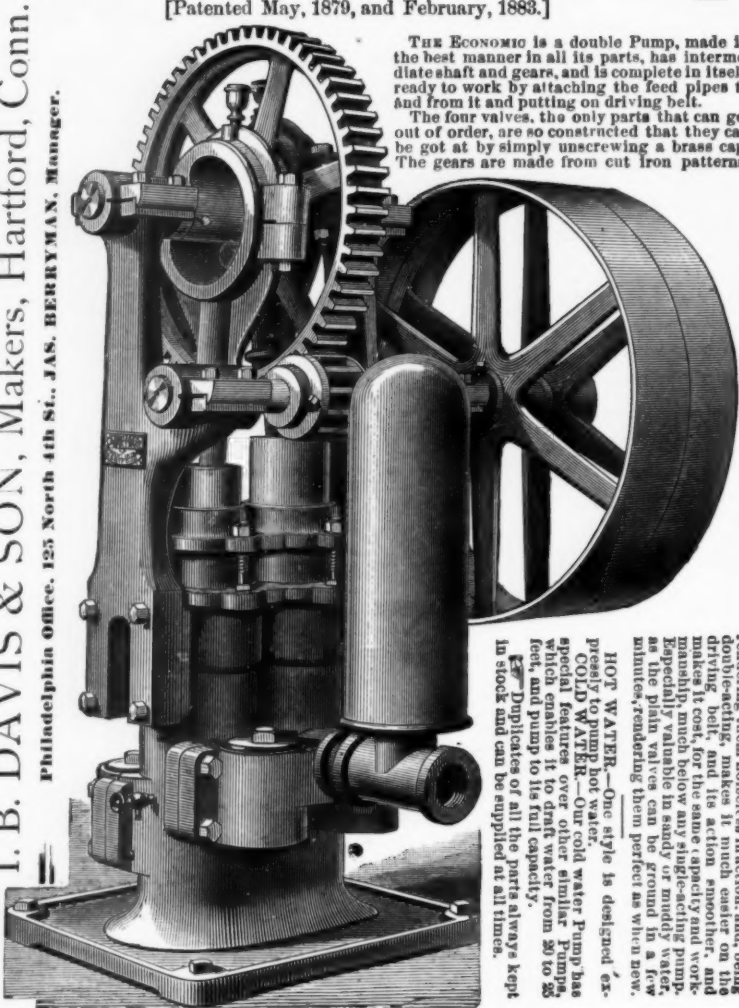
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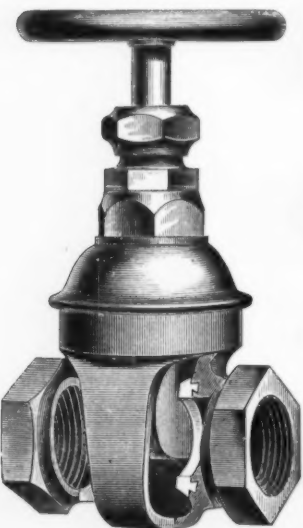
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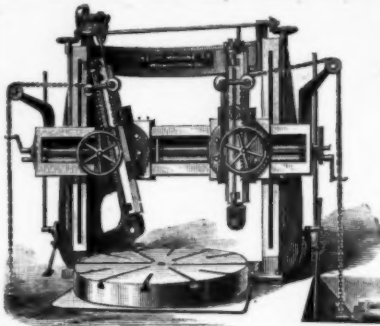
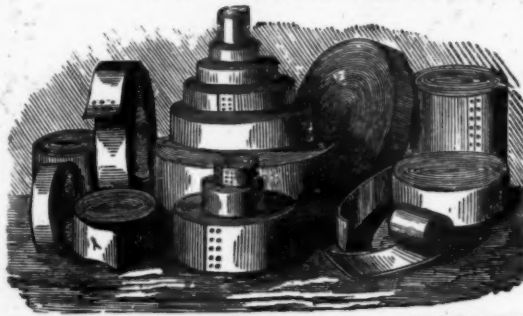
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